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The Beattie Smith Lectures

(MELBOURNE UNIVERSITY).

ON INSANITY.

By W. A. T. LIND, M.B., Ch.B. (Melbourne),
Pathologist, Victorian Lunacy Department.

LECTURE I.

THIS series of lectures, known as the Beattie Smith Lectures on Insanity, is given in accordance with the wishes of the late Dr. William Beattie Smith, of Melbourne, who made provision for them in his last will and testament in the following words: "The lectures are to be on the early treatment of insanity as I consider the practitioner and the public are in need of much education in regard to the subject." A quarter of a century ago when the late Dr. Beattie Smith was lecturer in insanity to the Melbourne University students, there was no examination in the subject of psychiatry and, as is the custom at the present day, the only proof of having acquired proficiency in that subject was the signature of the lecturer to the certificate which stated that the student had attended the prescribed number of lectures. Dr. Beattie Smith was student of human nature enough to know that in consequence of there being no examination in psychiatry, the young medical practitioner in training would not sacrifice time from other subjects in which examinations are held, in order to study psychiatry, as this is not an examination subject. How then was the medical man just qualified in a position to recognize much less treat cases of early insanity in order to try to prevent the saddest of all domestic upheavals, namely, the certification of a member of a family to an institution for the treatment of the insane? Every medical man knows that in commencing practice after passing his qualifying examinations, the young medical practitioner has very little time for reading except in connexion with situations which occur in his daily work, and as cases of insanity are the least frequent in his practice, his knowledge of the subject suffers accordingly. This was in the mind of the testator when he said: "The lectures are to be on the early treatment of insanity as I consider the practitioner and the public are in need of much education in regard to the subject."

Knowledge of the factors responsible for the production of insanity has become more definite in

recent years and this advance from somewhat vague notions to definite facts has altered the whole outlook of the subject of mental diseases. As the modern treatment of insanity is based upon the better understanding of the causes of insanity, the subject matter of these lectures must of necessity be a progressive discussion of these facts and the application of the knowledge concerning them to the preventive and curative treatment. Although this advance in the science of psychiatry has been considerable, there are yet many problems which require solution, problems which necessitate the assistance of every branch of medical science. It is to the interest taken in the subject of mental diseases in recent years by clinicians, anatomists, physiologists, biochemists and pathologists that we owe our present day improved knowledge of insanity.

Esquirol has said that in order to understand the insane it is necessary to live with them, but even without residence in a mental hospital in order to gain expert knowledge of the subject, the general practitioner can gain sufficient information to give him a good idea of what is required from him in order that justice might be done to his patient. The attitude of mankind towards insanity from the earliest times in the history of man up till the present age has undergone several changes. From the commencement of history up till the time of Hippocrates we are told that the ideas concerning insanity were measured by ignorance and superstition and that all treatment was the exclusive province of the priests. From the time of Hippocrates up till the time of Galen (400 B.C. to 200 A.D.) the teaching was that the brain was the organ of mind and insanity a manifestation of disease in this organ. From the time of Galen up till the time of Pinel, about the end of the eighteenth century, there was a return to the age of superstition. During this period persons of peculiar habits, especially those of solitary habit which is common in some forms of insanity, were burned as witches and wizards. Superstition and mysticism were rampant at this period as literature discloses and supernatural agencies were blamed for everything the cause of which was not manifest to the unlettered people of those times. Insane patients were in those days treated as criminals chained in filthy dungeons.

Gradually from this time onwards things took a change for the better. Esquirol, Pinel, Tuke and Chiarugi appealed for the more humane treatment of the insane and their right to be treated like human beings. During the last hundred years great advances have been made in the understanding of insanity and in the last forty years experimental psychology has considerably influenced the solution of psychiatric problems. The clinical, anatomical and psychological study of insanity all made great strides during that time. William Cullen (1712-1792) rejected the humoral theory of the mind being influenced by black bile, yellow bile, blood and phlegm and insisted upon careful anatomical investigations. This was followed in 1822 by Bayle describing the macroscopical pathology of general paralysis of the insane. In the psychological field the theory of Heinroth that insanity was caused by sin and required moralistic treatment, was superseded by the somatic school under the leadership of Greisinger. Wundt, of Leipzig, in 1882 introduced the present day psychological studies, but until the psychiatrists acquired a psychological education this was not introduced into psychiatric medicine. In 1890 Kraepelin applied it in the teaching at his clinic. Freud, of Vienna, introduced psychoanalysis, free association and dream analysis in the treatment of psychoneuroses, but although attempts have been made to apply it to insanity it has not been successful. Insanity is now regarded universally as the disordered function of the cells of the brain. If you look through the *Lunacy Act* of the Victorian statutes you will fail to find the word "insanity" mentioned. Apparently those who drew up the Act were of the same mind as Lord Blackburn when he said over thirty years ago on being asked to definite insanity: "I verily believe it is not in human power to do it." The word "lunatic" appears in the statutes for the first time in the reign of Henry VIII. (33 Henry VIII. C. 30) and there definitely denotes persons who have become insane since birth. The word "lunatic" is defined in the *Lunacy Act* of Victorian statutes as meaning "any person idiot, lunatic or of unsound mind and incapable of managing himself or his affairs and whether found lunatic by inquisition or not." The whole training of the medical man is the care of the individual who is for the time being the patient, while the law on the other hand is chiefly concerned with the protection of society. In legal procedures where the mental capacity for crime or contract has been under consideration, the difference of opinions in matters of insanity has led to confusion and argument. There is however no actual conflict between law and medicine when properly investigated. The laws of a country are founded upon the legal requirements for generations past and have been added to whenever any fresh contingency has arisen. A medical man, called in to see a violent and dangerous mental patient, actually adopts the dual rôle of medical man and administrator of the law when he first sees the patient as a sick man and then afterwards certifies his removal to a hospital for the insane for the protection of the wife and children. The law draws up the rules of society and the medical man should be able to separate out for the assistance of the administrators of the law those who "will not" and those who "cannot" obey those rules. The legal attitude sometimes puzzles medical men. According to the law a man may be insane enough to be sent to a hospital for the insane, but not too insane to make a will or he might be incapable in the sight of the law of entering into one form of contract and yet not too insane to contract a marriage. "Partial insanity" is an accepted legal term which to the medical man is as intelligent as a "partial pregnancy," but when the legal conception is explained as "insanity confined to a particular subject, the man being otherwise

quite sane," it is quite comprehensible. Curiously enough the law may sometimes assume a reversal of the rôle which it usually adopts as being the protector of society first and the individual second. This is when the law keeps under control in institutions those who are a source of harm to themselves or others, but allows the so-called harmless insane to go free and become mothers and fathers of children who will in turn carry on the dyscrasia. As the medical attendant of an individual, the medical man may be called upon in a court of law to give his opinion of the patient's mental condition at the time of making a will or entering into a contract, but the most frequent association with persons suffering from mental disease will be when called in to visit them in the capacity of a medical attendant. The general practitioner usually finds that insanity is well established and that the patient cannot be looked after properly at home, so he certifies him to an institution, where the subsequent course of the disease is watched and treated by the medical officer. Dr. Beattie Smith's expressed wish was that the general practitioner should be able to anticipate the actual mental breakdown and through knowledge of symptoms and by judicious treatment and advice prevent the necessity for certification.

The Development of the Mind.

At birth the babe is really idiot, more so than the newly hatched chick of the domestic fowl and has just enough instinct to suckle and cry for the food necessary for its future development. In its brain at the time of birth the structures are the same as that of the human race in general and the parents in particular. This latter similarity causes it when mature to resemble its parents more than anyone else in mental qualities. Some of the parts of the brain are not myelinated or complete and until they are myelinated, they cannot function. They become myelinated as they are required in the course of the growth of the individual. The instinct to suckle belongs to a set of acquirements, handed down through ages of evolution, which have been designed by the Great Architect for the survival of the animal life from which present day man is derived. Other instincts are self-preservation, maternal instinct to protect the young, instinct to eat and drink, the herd instinct and several others. Some of them develope later in life in response to growth of other parts of the body and as the growing body requires them; such, for example, is the sexual instinct in response to the internal secretion of the testicle. Their centres are probably situated in the thalamencephalon, as they are so ancient, but wherever they are, these instincts are subject to alteration in states of insanity and the result may be that instead of self-preservation we see a melancholic patient committing suicide, instead of maternal protection of the infant we see a puerperal mother killing her child, instead of the instinct to eat we see the refusal of food, instead of the instinct to energize which every normal individual has, we see insane inactivity and instead of the herd instinct we see solitary or antisocial habits. From the time the child is born it begins to receive sensory impressions in the cortex as fast as these sensory centres are equipped to receive them. At the end of a month the eye is a seeing organ and the child ceases to recognize its mother by the sense of smell and begins to recognize her by the voice and appearance. All these impressions are not only received, but registered as "engrams" in receptive parts of the cortex and it is the number and quality of these engrams upon which the child depends for its future mental equipment. As it proceeds through childhood it receives new sensations in the way of experiences which are all stored up as engrams. At puberty it receives a new type of engram and as it travels through manhood it receives the benefit or disadvantage of engrams of a good or bad environment which determines its attitude to the laws of society. If through the inheritance of a brain with a poor structural development, such as is found in congenital mental deficiency, the intelligence cannot pass beyond that of a child of ten or twelve, the result may be the unintelligent type of criminal. If the moral environment during education has been bad, the engrams build up a type of mind which may produce the intelligent type of criminal. If the structure of the brain is defective from inherited maldevelopment or some postnatal disease, such as syphilis, which has prevented the proper development and myelination, the result is idiocy or imbecility. The complete mind of the adult depends upon the quality of brain inherited from the parents, the environment during his minority and the ability to receive these engrams during the process of education. The difference in the environment and education *plus* the inherited qualities produce the differences in personality in different individuals. Thus the mind is made up of the following components which are referred to in medical psychology:

(i.) Instincts which are inherited and necessary for the survival of the race and which develope at different ages as growth proceeds.

(ii.) Percepts, concepts and ideas which depend upon the store and quality of the engrams in the brain.

(iii.) Emotions, moods and passions which are the tone of feeling produced by an idea, percept or concept.

(iv.) Cognition, recognition, memory, imagination which depend upon the store of engrams present in the mind of the individual.

(v.) Sensations of all kinds which are the functioning of certain specially elaborated parts of the body, as the ear, eye, taste buds, Pacinian corpuscles *et cetera*.

(vi.) Affect which is the tone of feeling such as "pleasant" or "unpleasant" that accompanies sensation.

(vii.) Intelligence which is due to the number and quality of the engrams.

(viii.) Judgement which is the power of appraising the value and relation of the information gained from all these qualities mentioned.

If the health of the cells controlling these qualities be affected, the power of reasoning and judgement is impaired and insanity results. With the reasoning faculty impaired it can be realized how all sensations, whether auditory, visual, tactual *et cetera*, are misinterpreted and how the general happenings of the outer world get incorrect meanings assigned to them. Because of wrong premisses it was a sane delusion or false belief that made the Arabs think that the shadow of an eclipse of the moon was a great beast eating up the moon. It is an insane delusion or false belief when the insane woman believes that a feeling of abdominal discomfort from which she is suffering, is a snake or some other animal inside her. If her judgement were not impaired she would not have arrived at that conclusion. This impairment of the judgement and of other recently acquired attributes sometimes causes the patient to retrogress to the mental state of earlier periods of his existence, with the result that "sing song" phrases continuously repeated or chanted, repeating of questions before answering, obstinancy *et cetera* which are natural in a certain degree to very young children and children up till the age of nineteen years, are manifested in an exaggerated form and we see verbigeration, echolalia and negativism appearing as symptoms in certain forms of insanity. The basis of sanity therefore is a physical one, namely the health of the neurone.

THE ÆTIOLOGY OF INSANITY.

Before the practitioner can treat any form of mental derangement he must have a knowledge of the factors which are responsible for that particular disturbance. There is no other branch of medicine in which the physician has to make such searching investigations and become so intimately acquainted with the financial, matrimonial, business, family and private affairs of his patient, as he does in the practice of psychiatry. He must have access to all the family records, mental and physical histories of all the blood relations and all the thoughts, wishes and innermost feelings of the patient under examination. This means that the physician must show more patience, sympathy and kindliness of manner than he would to one in full possession of the mental faculties.

In the ætiology of acquired mental diseases there are two causes, a predisposing cause and an exciting cause. The predisposing cause is the inheritance of a vulnerability of the neurone, called heredity for short. Obviously this is determined for the individual before birth. The exciting cause is stress of some nature which either directly or indirectly impairs the health of the neurone. The manner in which some of the different stresses behave, will be discussed further on and it is the detection and correcting of those stresses at an early stage which mean so much to the patient. A short account of the rules controlling the inheritance of the dyscrasia which is the predisposing factor, will show how important the influence of heredity is in this as well as in other diseases, although in the former unfortunately it is not sufficiently appreciated by a number of practitioners. Though many of the facts of the science of heredity are clear, others are obscured and the relationship of nearly all has been difficult to ascertain. Up to a certain point the manner in which the offspring is related to the parent is easy to understand, but in some of the results of experimentation and natural selection the evidence is so conflicting that it appears as if a correct or unanimous solution will never be reached. This is due to the fact that artificial and natural selection often give different results. Workers in different parts of the world are daily adding to the knowledge of this subject and some are also adding to the confusion by reporting discoveries which upset some of the theories that have up till now been regarded as correct. For example, the belief that acquired characters are not transmitted to the offspring and Weismann's hypothesis of the continuity of the germ plasm appear to have been disproved by certain recent experiments of Dr. Kammerer in Vienna. On the whole the known generalizations of heredity are quite sufficient for the explanation of the matter in hand without venturing upon details which are being investigated by cytological experimentation by Professor T. H Morgan and others.

As "like begets like" the union of the human male "gamete" (or marrying cell) with the human female "gamete" produces the human "zygote" or fertilized ovum which developes into the human embryo, fœtus and child. The embryo grows to maturity beholden to the mother for its nutriment and liable to be adversely affected by whatever impairs the health of the mother. According to the Weismann theory, the new individual is made from the germ plasm only, therefore any resemblance which the offspring may have to its parents, is due to this ancestral germ plasm added to the influence of whatever environment the parent and offspring have shared in common. The only way in which the developing embryo can be affected by external agents *in utero* is through the mother who besides providing the nutrition can also affect it adversely through toxins and deprivations. Certain types of idiocy are suspected of being produced in this manner. The offspring is never exactly the same as its parents, because it inherits from both parents a long line of inborn characters. When the difference between offspring and parent is inborn, it is called a variation, but when it is due to unequal influences of nutriment, use and injury upon parent and offspring, it is called an acquired character. For example, a pair of homologous twins are brought up under different circumstances, the one with fresh air, food and happiness and the other in a slum with poor food and insanitary conditions. The difference between them when grown up will be due to acquired characters. On the other hand, take two children of the same age and sex, but of different parentage and bring them up under the same roof and under the same conditions of living, education *et cetera* and the difference between them when grown up will be inborn. Applied to the inheritance of insanity, it explains how one member of a vulner-

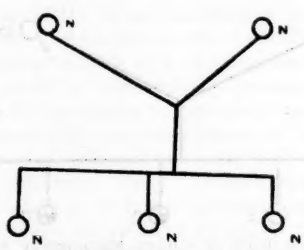


FIGURE I.—SHOWING MENDELIAN PROPORTION. N = normal.

able family, growing up subject to one set of environment, injury and use, may remain sane, while another member under different conditions may become insane. It also explains why two individuals, one from insane stock and another from sane stock, behave differently when subjected to the same conditions of environment, use and injury. The former having the inheritance of a vulnerable neurone becomes insane and the other remains normal minded. If H represents the individual then A B C D E F G H represent his own complete development, A to G being the line of his ancestors. Thus "every man recapitulates with variations the life history of the race" or "every individual climbs his own genealogical tree." If unfortunately one of the ancestors had mental disease and this has not been bred out by marriage, then H runs the risk of inheriting the dyscrasia according to the laws governing the inheritance of characters. Professor T. H. Morgan has recently conducted cytological investigations, showing that the chromosomes are the determinants of the hereditable characters and the work of an Austrian monk, named Gregor Mendel, discovered that the inheritance of characters occurred in a certain definite numerical proportion. Mendel worked with tall and short peas, where the fertilization was artificially controlled. The inheritance of characters in a certain definite numerical proportion cannot be demonstrated in insanity as it can be with tall and short pea plants, because owing to the sexual activities of man not being seasonal, it is impossible to obtain conditions in which every ovum can be fertilized and accounted for, also because it is only the persons inheriting the dyscrasia and succumbing to the influence of a

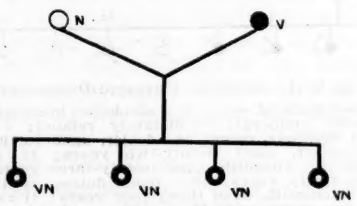


FIGURE II.—SHOWING MENDELIAN PROPORTION.
N = normal; V = vulnerable.
VN mated to V will give 50% vulnerable and 50% VN; VN mated to VN will give 25% N, 50% VN and 25% V; VN mated to N will give 50% N and 50% VN.

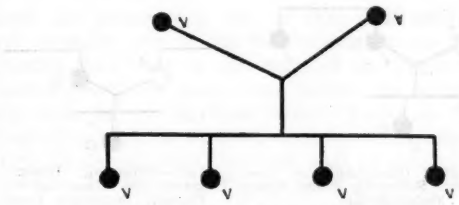
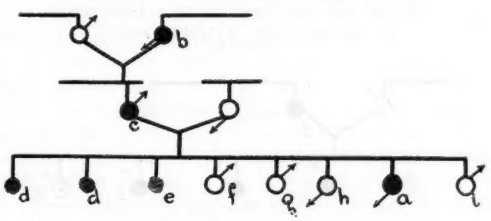
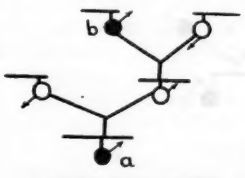


FIGURE III.—SHOWING MENDELIAN PROPORTION. V = vulnerable.

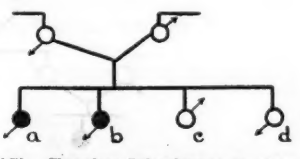
stress who would show on the hereditary chart as insane, the other remaining on the chart as normal, although some of them are potentially insane. The Mendelian inheritance is called alternative as opposed to blended inheritance (see Figures I., II. and III.). An example of blended inheritance in characters is seen in the different grades of colour in the cross between a black and white race. If this were of the Mendelian type of inheritance some would be black and some would be white. As in the practice of breeding domestic animals, the defective ones are culled, so could man by the practice of eugenics gradually get rid of the dyscrasia of the vulnerable neurone. Unfortunately, individuals suffering from this dyscrasia have a special affinity for each other and mate, producing an intensification of the condition, whereas, as the dyscrasia is a recessive character, marrying into sound stock would in time lessen the proportion of those who are so handicapped. One is led to believe that educating the public to the dangers of this inbreeding of psychopathic stock would bring about an improvement, because even under the present conditions in which there is no restriction, voluntary or legal, in the mating of individuals, the proportion



(*A*)—Showing Inheritance in Case of a Patient Suffering from Delusional Insanity.
a = The patient; *b* = insane; *c* = died, insane, aged forty-seven years; *d* = miscarriage; *e* = seven months, still-born; *f* = aged thirty-seven; *g* = aged thirty-three; *h* = prostitute; *i* = aged twenty-six.

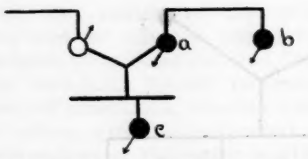


(*B*)—Showing Inheritance in Case of a Patient Suffering from Arteriopathic Dementia (lead).
a = patient; *b* = insane.

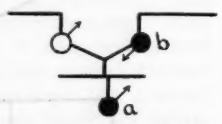


(*C*)—Showing Inheritance in Case of a Patient Suffering from Alternating Insanity.
a = Patient, fifty-three years of age; *b* = Insane; *c* = died of phthisis; *d* = alcoholic.

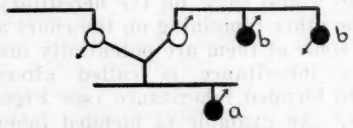
FIGURE IV.—SHOWING INHERITANCE IN DIFFERENT TYPES OF INSANITY.



(*A*)—Showing Inheritance in Case of a Patient Suffering from Acute Melancholia.
a = Insane; *b* = died insane at Kew; *c* = aged forty-two years, insane.



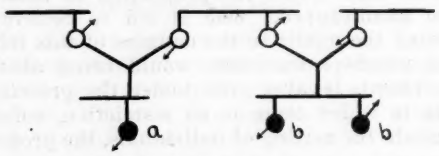
(*B*)—Showing Inheritance in Case of a Patient Suffering from Melancholia.
a = Insane, aged forty-seven years; *b* = religious mania.



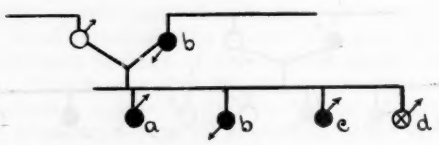
(*C*)—Showing Inheritance in Case of a Patient Suffering from General Paralysis of the Insane.
a = Aged forty-seven; *b* = insane.

Figure V.—Showing Inheritance in Different Types of Insanity.

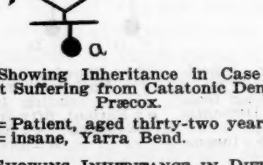
of insane to sane keeps fairly constant, being between 3‰ and 4‰ in most countries where statistics are available. The family practitioner should therefore do his best to inculcate this doctrine into the members of any family in his care who are unfortunate enough to inherit this



(*A*)—Showing Inheritance in Case of a Patient Suffering from Primary Dementia.
a = Patient, aged thirty-two years; *b* = insane.



(*B*)—Showing Inheritance in Case of a Patient Suffering from Primary Dementia.
a = Patient, aged fifty-six years;
b = insane;
c = general paralysis of the insane;
d = suicide.



(*C*)—Showing Inheritance in Case of a Patient Suffering from Catatonic Dementia Præcox.
a = Patient, aged thirty-two years;
b = insane, Yarra Bend.

Figure VI.—Showing Inheritance in Different Types of Insanity.

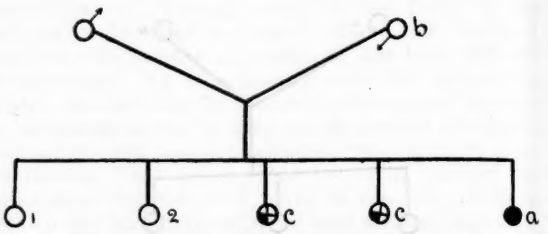


Figure VII.—A Type of Chart Frequently Seen in Idiocy Produced by Congenital Syphilis.
a = Patient, aged three years, imbecile;
b = syphilitic after birth of second child;
c = miscarriage.

dyscrasia. Explain to them the benefit they will be conferring upon themselves and the community in general in seeking their mates from strong stock, in practising contraceptive measures or remaining celibate, according to their powers of self-sacrifice. Let it not be overlooked that individuals of such stock are rather prone to take pleasure in self-sacrifices, so that it may not be such a hardship after all. A great many of the slaves to self denial and asceticism are from families with a psychopathic dyscrasia. A study of the heredity charts of the insane will satisfy any doubt that hereditary influences are present in both acquired and congenital insanity, the latter showing stronger evidence of phyletic degeneration than appears in the acquired insanities (see Figures IV., V., VI., VII. and VIII.). In idiots there is in many cases found *post mortem* evidence that the products of conception were subjected to the influences of syphilis which alone could have brought about the maldevelopment and disease of the brain with consequent idiocy without any need of a psychopathic inheritance. Heredity being present, the necessary degree of stress brings about the mental disease converting the potential into an actual mental patient. The degree of stress necessary to upset

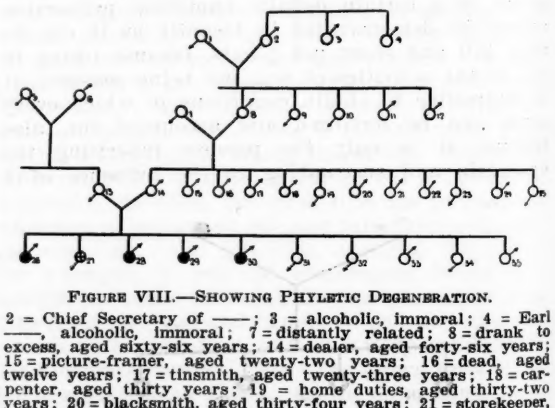


Figure VIII.—Showing Phyletic Degeneration.
2 = Chief Secretary of ——; 3 = alcoholic, immoral; 4 = Earl ——, alcoholic, immoral; 7 = distantly related; 8 = drank to excess, aged sixty-six years; 14 = dealer, aged forty-six years; 15 = picture-framer, aged twenty-two years; 16 = dead, aged twelve years; 17 = tinsmith, aged twenty-three years; 18 = carpenter, aged thirty years; 19 = home duties, aged thirty-two years; 20 = blacksmith, aged thirty-four years; 21 = storekeeper, aged thirty-five years; 22 = blacksmith, aged thirty-six years; 23 = waitress, aged thirty-eight years; 24 = labourer, aged forty-three years; 25 = married, aged forty-four years; 26 = dead, idiot, Wassermann + (Kew), aged seventeen years; 27 = committed to "retreat" for house-breaking, aged eighteen years; 28 = imbecile (Kew), aged sixteen years; 29 = imbecile (Kew), aged fifteen years; 30 = committed to Gordon Institute for larceny; 31 = bright and intelligent, aged ten years; 32 = aged eight years; 33 = aged seven years; 34 = aged five years; 35 = aged two years.

the mental stability of an individual depends upon the vulnerability of his neurones. A small stress may upset the mental health of a predisposed individual, but if there is little vulnerability present, the stress will require to be severe to produce insanity. The brains of those with an inheritance of neurone vulnerability may be likened to a series of combustible fluids with different "flash" temperatures. To be safe for burning in a lamp kerosene must have a flash temperature above that to which the kerosene in the lamp during ordinary use might be raised, otherwise there will be an explosion. Some brains have a low "flash" which means that the individual must live an existence as free from stress as it is possible in order to avoid a "break down." Others have a "flash" high enough for the ordinary stresses of life, but not high enough for very severe stress. All individuals do not respond equally to the same stress, especially when that stress is a psychical one. This is on account of the "behaviour reaction" in different people varying according to the mental "make up." What will worry one man will not worry another, on the same principle of what is "one man's meat is another man's poison." A man who has no fear of any man his own weight, becomes pale when a stethoscope is placed on his chest in examination for life insurance.

Stresses.

The classification of stresses varies according to the preference of different authorities, but that is merely a matter of arrangement, as the items are practically the same. There are toxins (metabolical and bacteriological), traumatism, fatigue, exhaustion, pregnancy, climacteric, physical disease and psychical stresses. "Any factor which interferes with the health of the neurone," may be regarded as the position in a nutshell. In congenital mental disease the mental symptoms are due to defective structure of the brain, just as a piano with notes missing cannot produce the perfect melody. In normal mental health, even with an individual with no appreciative vulnerability of the neurone, we see in daily life the response to the altered nutrition of the neurone. The so-called "liver attack" from indiscretion in diet, produces lack of self-control and a shortness of temper. The children of neuropaths show delirium at a much lower temperature during the illnesses of childhood. The loss of money or a friend causes a feeling of depression and spoils the beauty of the day; some show a behaviour reaction of more depression with the loss of the former than of the latter. This depression is physiological and is in proportion to the intensity of the cause, but the depression or exaltation of the insane is pathological and quite out of proportion to any manifest cause. This pathological response to stresses is known as the "alteration of the *ego*" and the cause of it is the impairment of the health of those cells of the brain which are the last to be elaborated and the first to go.

The clinical observations on patients who have suffered trauma to the prefrontal area of the brain, and the increase in size of this part of the brain as animals ascend the evolutional scale first suggested that it is in this part of the brain that the qualities which place man above the level of the animals, have a physical basis. Later on the histological work of J. S. Bolton proved this assumption. Bolton also showed that this part of the brain is the last to be developed and that the pyramidal or supragranular layer of the cortex is the physical basis of the psychic and educational association process. Following the recognized law that the last to come is the first to go, this last developed supragranular layer is the first to succumb to the effect of any toxin or deprivation in nutrition on the cerebral cortex and the result is that the individual is deprived of the use of these cells.

These cells control the æsthetic qualities, the judgement and general knowledge gained from birth onwards which should enable the individual to appreciate situations and to assign them their proper place and meaning. Failure to do this may result in abnormal behaviour and delusions of all kinds. For example, unpleasant visceral sensations which in normal health should not be felt, because of the defective reasoning powers are wrongly interpreted as symptoms of poisoning and if there is anyone with whom the patient has recently quarrelled, the probabilities are that he will be blamed for the poisoning. Sane persons with suspicious natures are frequently seen to follow the same trend owing to their behaviour reaction. As an instance of how deprivation of the use of certain parts of the brain can affect the mind of the individual, the classical case of Strümpell may be cited. This patient suffered from universal anæsthesia, bilateral deafness and unilateral blindness. When he closed his good eye he fell asleep, became unconscious or in other words had a total loss of mind. If this be considered as an extreme result of deprivation of the use of certain parts of the brain, then it may be appreciated how deprivation of the use of cells in the prefrontal area and supragranular layer of the cortex can account for the chaotic cerebration found in the insane. Strümpell's case was like the effect of using the main switches to cut off a current and the mental patient's case resembles the effect produced by a general shortcircuiting of different wires, the shortcircuiting wires correspond to the cells and fibres which owe their relative susceptibility to stresses, to the fact that they are younger, both in order of evolution and development than the other cells and fibres of the brain. This is the anatomical basis of insanity founded on clinical, evolutional, surgical, histological and pathological evidence.

The exciting causes or stresses most frequently met with are as follow:

Physical Stresses.

Worry, grief and fear are good examples of physical stresses. The patient suffers from reflex action or overaction of the autonomic system. The dryness of the mouth of a normal individual during moments of intense anxiety is well known. The conditioned reflex of Pawlow indicates a still

further extended influence of the autonomic system. It can be easily appreciated that the same mechanism acting throughout the whole body will produce changes in glandular secretion and pulse tension to such an extent that the normal nutrient supply to the brain is impaired. Worry in a normal individual can produce indigestion, a bad colour and loss of condition that raises the fear of malignancy, while worry in an individual with a low "flash" will alter his *ego* and produce mental symptoms. In passing it can be stated that it is the long continued stress rather than the sudden shock or stress which has the most damaging effect upon the nerve cells of the brain. It is the long nursing preceding the death of an aged mother which is responsible for the mental breakdown of the dutiful daughter rather than the shock of the death itself. The nature of psychical stresses is fairly limited. There are only a few circumstances which react upon man strongly enough to produce a psychical stress sufficiently strong to disturb his physical health and the number of these circumstances varies in different individuals, being influenced by the temperament or "behaviour reaction" of each individual. Memories of certain students being troubled by frequent micturition or an attack of diarrhœa while waiting outside Wilson Hall for the examination bell to ring supply one example which this audience especially can appreciate. The average man or woman responds deeply to the following:

(i.) Thoughts of bodily injury to himself or those whom he regards as being attached to him by a common interest, such as his wife, child, parents and dearest friends.

(ii.) Thoughts of injury to the personal or real estate of himself and intimates.

(iii.) Thoughts of injury to the reputation of himself and intimates.

(iv.) Thoughts of anything that threatens the prospect (in the religious sense) of a happy hereafter.

(v.) Thoughts of anything that interferes with the sexual and ambitious projects.

There are some primitive individuals who are content with three meals a day and a bed and who are not stirred unless these privileges are threatened. Others more intellectual of ambitious temperament, keen on making money or a reputation, suffer fear or anxiety in relation to the threatened or actual loss of either. Food, loved ones, sexual interests, property, religion, reputation and ambition control man's life. Exclude them and his life is drab. They occupy his thoughts constantly and when he is insane control his delusions and hallucinations. The individual inordinately ambitious regarding wealth or social standing, will have delusions of grandeur, wealth and pride. The woman who like most of her sex is influenced more by what people may say or what the world's opinion may be, than that which conscience sanctions, thinks of her reputation and has hallucinations of hearing, accusing her of wrong doing. The insane mother fears for the safety of her babe and murders it to save it from harm. Another fears poisoning from foodstuff. Another who has had a sexual lapse fears the punishment of hereafter. All these concern the interests of the individual, hence the intensity of the effect they have upon his mind. When other persons not intimately associated with him have their interests threatened, he does not respond in the same manner. He will throw a stone at a neighbour's dog, but will be furious if street urchins stone his dog. He will shoot wild duck, but will tenderly splint the broken leg of a pet canary. The latter is called sympathy or literally "fellow feeling." Sympathy is practically the applying to oneself the injury sustained by others, the individual considering himself for the time being an injured party, just as an insult offered to a Britisher in Mexico makes every other Britisher indignant. It is only things that promise to harm man's interests, which cause a disturbing reaction. The things that promise to improve his position in any way, do not appear to have any deleterious effect upon him. Fear, grief and worry appear to poison a man, supposed in the case of fear to be due to excess products of the suprarenal bodies, but joy, happiness and a complacent mind improve his bodily appearance and health. This fact teaches us to look for the psychical stresses which are the causative agents in the production of an attack of insanity, among the things threatening the sexual, business, financial, family and social happiness of a man or woman. It is probably this fact that decided Freud, Jung and Adler to base their psychology on the principles of hedonism (pertaining to pleasure), including sexual pleasure and of the lust for power.

Toxæmia.

Whether bacterial, metabolical or chemical in origin toxæmia is a frequent cause of insanity. Chronic kidney disease, copræmia, pyorrhœa, tuberculosis and syphilis are examples of this kind of stress. As in the psychical stresses it is the long sustained rather than the acute stress which is most productive of insanity. Whatever the stress, the end result is the same, impairment of the neurone temporarily or permanently. If the stress be relieved, the brain cells will recover; unfortunately some stresses cannot be relieved. As it usually takes some time to cure any physical illness which is the cause of an impure blood supply to the brain, recovery from the shortest of mental diseases is much slower than in physical illness alone. A striking example of the recovery of the neurone when the stress is relieved is seen in the treatment of pellagra by blood transfusion. The mental symptoms clear up far more rapidly than in other types of mental disease. It is in the discovery and treatment of the stress that the medical attendant who sees the case in its early stage, can do so much good. He has in the early stage the advantage of the patient's assistance which the medical man, seeing the patient when quite alienated, has not. When a patient is just beginning to show signs that the trouble is a mental one, there is some possibility of obtaining subjective symptoms, but later on there is not much chance of this as the symptoms are then

mainly objective; also late subjective symptoms are apt to be delusional if present. Another advantage of seeing a patient in the preinsane state is the possibility of obtaining a personal past and present history from the patient himself or herself, instead of being obliged to rely upon the statements of relatives who know only so much of the patient's life history as is of a semipublic nature and who consequently do not include what is of so much importance in these cases, namely, the private life experience of the patient. It is in this private life of the patient that is frequently hidden the import of the delusions and behaviour reaction of the patient and in the case of a psychical stress the exciting cause of the mental breakdown. Hence the advantage of early treatment of mental cases compared with the treatment after certification.

The insane patient is always suffering from physical disease, even though it may not be manifest. The following may be cited as an example of this. Two patients are received at an institution on the same day. The one is a young man apparently in good health physically and mentally bright and very cheerful. The other is a pale, anæmic or muddy complexioned young woman, silent, in poor physical condition and taking no interest in her surroundings. The one is suffering from early general paralysis of the insane and hopeless from the start. He will rapidly deteriorate mentally and physically and be dead in three or five years at the most. The young woman is suffering from puerperal insanity and with proper treatment should be cured in about nine months time. Both patients are very ill, but the stress in the one case is incurable syphilitic infection, while the stress in the other was childbirth with its accompanying shock and loss of blood, which time and good nursing will repair, provided there is no other handicap, such as chronic nephritis, present.

Malnutrition.

If the neurone cannot obtain its full supply of oxygen or nutriment or cannot get rid of its effete matter, the result is reflected in the consequent alteration of its functioning. In this manner primary and secondary anæmia can act as a stress in the production of insanity. In carbon monoxide poisoning in sane folk who recover, mental symptoms sometimes of an acute character may last for an hour or so.

Organic Changes in the Brain.

Organic changes in the brain, pathological changes in the membranes and atheroma of the cerebral vessels may cut off the nutriment of the neurones and prevent the effete products of the cells getting away to the ultimate damage of the neurones. The action of these organic changes is mechanical.

Organic Changes in Other Parts of the Body.

Disease of other parts of the body can act as a stress and cause mental symptoms. In contrast with the preceding class this action is usually toxæmic. Chronic kidney disease, chronic cirrhosis of the liver, pulmonary tuberculosis, mitral stenosis and other forms of chronic endocarditis frequently terminate in mental symptoms, but some individuals break down mentally with these bodily diseases acting as the stress long before the terminal stage of the disease. When the factors which produce insanity, are recognized to be heredity and stress, it is not out of place to expect an attack of insanity during the course of a chronic or acute physical illness in a member of a predisposed family. Even if the heredity is not disclosed, a study of other members of the family will satisfy the medical attendant that he is dealing with a patient with a low "flash" point. Intoxication goes with all bacterial infections and each has its peculiarity, such as the foggy delirium of typhoid and typhus, from which character the names of the diseases are derived, the *spes phthisica* of tuberculosis and the euphoria of septicæmia. There may be a pleurality of stresses present, the last one developed being the one which set the balance against the neurone, as the last straw which broke the camel's back.

Alcohol.

Alcohol may act upon individuals as a toxin. People vary considerably in their reaction to alcohol, so that what is a toxic dose to one is productive of little effect in another. This is due to the fact that psychopaths are susceptible to its action and also to an immunity that constant use by a nation, family or individual may give. The appearance of drunkenness in an heredity chart is found more often in congenital insanity, where its frequency is an indication of phyletic degeneration so common in congenital mental disease. Drunkenness is in phyletic degeneration secondary to the lack of self-control and should not be regarded as the stress responsible for the mental disease. Alcohol is found as the responsible stress in several types of insanity.

Venereal Disease.

Venereal disease which is not congenital, is most frequently the result of the lack of self-restraint or the predomination of primitive instincts over æsthetic control. These are characteristic features of the congenital and chronic insane, so that it is not surprising to find that a large number of those attending venereal disease clinics are congenital defectives of the moron class. Venereal disease is in many cases the cause of insanity. The soft sore is not a factor in the production of insanity in this country, but both gonorrhœa and syphilis are frequently the factor responsible. In gonorrhœa it is the paragonorrhœal rather than the gonorrhœal changes which are productive of mental symptoms. The chronic physical ill health produced by these paragonorrhœal changes gradually impairs the health of the neurone of the vulnerable individual. Some authorities attribute the manic depressive cases to paragonorrhœa. In the female the pelvic adhesions of gonorrhœa interfere with the functioning of the lower bowel and cause congestive changes in the generative organs, thus producing general

chronic ill health which ultimately affects the neurone. In the male the changes appear to be mainly in the prostatic region which region is regarded as responsible for many reflex disorders. Syphilis causes insanity directly by the action of the organism upon the brain and indirectly by its action upon the other organs and tissues of the body whose integrity is necessary for the pure supply of blood to the neurones. General paralysis of the insane is caused by the direct action on the neurones and many other insanities owe their origin to disease in other organs and tissues altered by syphilis. Recent statistics show that the syphilitics in a community supply about ten times more insane than the general population does.

The first result of all stresses is chromatolysis in which the tigroid bodies or Nissl's granules disappear from the nerve cell, the whole cell staining diffusely. The nucleus swells and moves to the surface of the cell. This chromatolysis can be recovered from in time. Sir Frederick Mott suggests that the cells build up this tigroid substance from the lipoids of the cytoplasm by the aid of a nuclear ferment. If the stress continues and becomes more than the vitality of the cells can bear, the neurofibrils of the cells are destroyed and the nucleus is extruded, leaving the original cell a poorly staining shadow cell to be gradually absorbed probably by neuroglial cells which act as scavengers. Chromatolysis of the cell impairs the function of the cell and produces temporary inactivity of the cell. Achromatolysis or destruction of the achromatic parts of the cell means death of the cell. Achromatolysis thus produces permanent mental enfeeblement or dementia. Following the rule of "the last to be evolved, the first to go," the highest mental attributes show the first symptoms of impairment and the individual who was previously intellectual and possessed the higher mental qualities, now loses all these and is more or less at the mercy of his organic instincts. The controlling cells of these instincts are older from a developmental and evolutionary standpoint and are shown by Bolton to be in the subgranular layer of the cortex. Those medical men who have watched the course of an acute insanity pass into dementia of that type known as "the working patient" in a hospital for the insane, appreciate this gradual change more than medical men in private practice. The prospect of recovery depends upon the degree of vulnerability of the neurone and the nature of the causative stress. Even if the agent damaging the neurone can be corrected, whether it be anæmia, copræmia, toxæmia, kidney insufficiency or autointoxication, mental improvement does not take place until the cell is rebuilt and is functioning properly. The length of this accounts for the duration of even the very shortest of mental diseases. Where disease of other organs takes days to improve, disease of cerebral neurones takes weeks or months. Thus it takes six or nine months to recover from an attack of acute melancholia, whereas an acute attack of pneumonia is a matter of a few days. An attack of insanity may be of two years' duration and still be an acute attack. Acute here is used in the sense as opposite to chronic. Severe and intense are used to denote the severity of the symptoms. Some cases of insanity are from the first obviously hopeless on account of the nature of the causative agent.

The discussion in these lectures of the interassociation of the physical and mental symptoms of insanity unfortunately necessitates frequent digression and repetition. It is like lecturing on two subjects at the same time, but like the repetition of the theme in a musical fugue, it is unavoidable in order to place the completed idea before the audience.

RIGHT-SIDED ENTEROPTOSIS, ALIAS CHRONIC APPENDICITIS.[1]

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THE question of "chronic appendicitis" calls for attention not because of a high mortality rate, but because of a rather disconcerting morbidity rate, a postoperative persistence of symptoms. When a patient complains of the same symptoms after appendicectomy as before the operation, there is sufficient reason for belief that the original symptoms were not caused by the appendix and that the treatment was based on an incorrect diagnosis.

The large and apparently increasing number of these cases calls for close attention and an analysis of all available data in the hope of arriving at some more definite justification for making a diagnosis of "chronic appendicitis."

It has been suggested that this increase is due to "chronic appendicitis" having been the specially selected playground of the amateur surgeon; but there is abundant evidence to prove that a large proportion of the uncured patients have left the operating tables of surgeons whose standing is unquestionable. Kehr once very aptly said that a living patient who received no permanent benefit, was a living, talking, unforgettable advertisement of failure and any considerable proportion of such persons must soon condemn an operative procedure. In the present instance the strongest condemnation has probably arisen from a certain well-known physician who propounded the piquant epigram: "There are two kinds of appendicitis, acute appendicitis and appendicitis for revenue only."

But in spite of this gentleman's assurance to the contrary chronic apendicitis does exist and does cause symptoms; but it is not characterized either by pain starting in or pain confined to the right iliac fossa.

Chronic appendicitis may be considered under three heads: (i.) Recurrent appendicitis in which the patient suffers from typical attacks of acute appendicitis with relatively symptomless intervals. (ii.) Relapsing appendicitis in which the patient

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has suffered from one or more typical attacks of acute appendicitis, but has never completely recovered his normal health during the intervals. (iii.) Chronic appendicitis proper in which the patient has suffered from pain referred to the epigastric or umbilical rather than to the right iliac region, pressure over the appendix giving rise to this reflex epigastric pain.

Of late considerable evidence has been accumulated that chronic appendicitis may set up secondary changes in the stomach (hypersecretion and irregular action of the musculature) and give rise to gastric symptoms (appendicular dyspepsia). It therefore would appear that when the appendix escapes attacks of acute inflammation, the subjective symptoms will be transferred to the epigastric or mid-abdominal regions. In many cases, however, occasional attacks arise in which the changes of acute inflammation are set up with the accompanying pain and soreness in the right iliac region.

Hence in the absence of an active attack of acute appendicitis pain confined to the right iliac fossa with local tenderness does not denote appendicitis. In other words the formula: "Painful right iliac syndrome, McBurney's phenomenon, appendicectomy," has led not only to much unwarranted surgery, but has also been responsible for the development of more than one abdominal cripple.

In 1911 Stanton wrote:

> In our cured cases of chronic appendicitis the pain has been almost constantly referred to as epigastric or mid-abdominal rather than right inguinal. On the one hand, nearly all the patients not benefited by operation complained of right inguinal pain as one of their chief symptoms. . . . On the other hand our uncured patients almost without exception complained of pain in the right lower quadrant as their chief symptom.

It is to this group of uncured patients that the present study has been chiefly directed. In other words, this paper refers to a type of condition, commonly diagnosed as "chronic appendicitis," in which there is abiding discomfort in the right iliac fossa with exacerbations accompanied by nausea, sometimes by a slight rise of temperature and more commonly known in women. These cases are not appendicular in origin, but all are associated with a greater or lesser degree of enteroptosis.

This group does not include patients suffering from true chronic or acute appendicitis accompanied by visceroptosis, a combination which is not at all uncommon.

Anatomy.

Almost without exception symptom-producing chronic appendicitis is associated with an anatomical condition interfering directly with the free drainage of the appendix and as a rule the more permanent the occlusion, the more constant or frequent are the clinical symptoms. In other words the lesion appears to be of a mechanical nature. But in addition to chronic appendicitis the ascending colon may be the site of anatomical or pathological changes which involve a part of or even all this viscus. One may find either abnormal mobility or displacement due to faulty fixation of the mesentery or abnormally developed adhesions, congenital or acquired, which fix and immobilize this part of the colon in an abnormal situation and which hinder more or less the functioning of this part of the intestine.

The chief of these changes will now be discussed.

Caecum Mobile.

The normal mobility of the caecum becomes pathological when the length of the caecum is increased (elongated caecum), especially when a part of the ascending colon becomes equally mobile (mobile caecum) owing to failure of fusion of the primitive mesocolon. *Caecum mobile* therefore may be considered a congenital condition expressing the variability to be expected in a transitional organ, undergoing evolution for the purpose of adaptation to the erect position and to food requirements. Compare the caeca of herbivorous and carnivorous animals.

Ptosis of the Caecum.

In ptosis of the caecum there is a dilated and adherent caecum. Adhesions fix the fallen caecum in the pelvis and hinder its contractions in the same way as the heart is hindered when the pericardium is adherent.

Ptosis of the Right Flexure.

Normally the right flexure is definitely subhepatic and occupies the level of the tenth or eleventh rib; it lies on a horizontal line which passes through the first or second lumbar vertebra. When ptosis is present the superior border of the flexure is found when the individual is in the erect posture to lie on or definitely below the level of the right iliac crest. The attachments of the right flexure vary. In some cases a firm, broad peritoneal band containing some fibrous tissue fixes it to the lower pole of the right kidney (nephrocolic ligament) or to the parietes close to the kidney or to the gall bladder (cystocolic membrane). In other cases the right flexure is so mobile that it can be lifted readily out of the abdomen through a right rectus incision.

Mobile Ascending Colon.

As Waugh had pointed out, a firm fixation of the ascending colon is a prime mechanical necessity for the efficient performance of the functions of this segment of bowel. In the condition of mobile ascending colon the peritoneum invests the colon over the whole of its circumference, except posteriorly, where its two leaves unite to form an ascending mesocolon, a short peritoneal fold which attaches the ascending colon to the posterior abdominal wall.

The formation of this mesocolon may depend upon two processes. One is congenital and is the result of partial or complete failure of fusion of the primitive mesocolon with the posterior parietal peritoneum. The other is acquired and results from the stretching of the adhesions formed between the primitive mesocolon and the parietal peritoneum

with formation of a mesocolon (pseudo mesentery of Waugh) consisting of four thicknesses of peritoneum. The ascending colon is dilated, lengthened and, being freely mobile, can be readily withdrawn through an abdominal incision.

When the body is in the erect position, the caecum will form a large, median, more or less horizontally-placed pouch which may pass down into the pelvis or be capable of being placed in widely different situations (travelling caecum).

The doctrine that abnormal mobility of the right kidney is invariably associated with mobile ascending colon is open to doubt, although the association is undoubtedly most common.

Jackson's Membrane (Pericolic or Parieto-Colic Membrane).

Jackson's membrane is a delicate transparent veil containing long parallel blood vessels which runs from the peritoneum of the right flank and iliac fossa to the anterior surface of the ascending colon. It is freely movable on the surface of the colon, but forms a "diaphanous bag too short to contain the colon without wrinkling." It does not limit the mobility of the caecum; in fact the more mobile the caecum, the better developed the membrane.

Double-Barrelled Union of the Ascending and Transverse Colon.

In double-barrelled union of the ascending and transverse colon in addition to ptosis of the right flexure, ascending colon and caecum there is an added ptosis of the right two-thirds of the transverse colon and the right half of the latter lies parallel to and hugs the ascending colon to form what appears on X ray examination with the body in the erect position to be a confused mass in the right iliac fossa. In certain cases more or less solidly organized adhesions which are probably derived from excessive development of the omentum, may unite the ascending colon to the right half of the transverse colon.

Dr. J. G. Edwards has pointed out that in the absence of enteroptosis fully 90% of individuals manifest close approximation of ascending and transverse colons (in either standing or recumbent positions) at some time during an X ray examination, but that this condition should be considered pathological only when these two segments are demonstrated to be firmly fused together.

Embryology and Comparative Anatomy.

The development of the caecum has been shortly outlined in a recent paper on the surgical anatomy of acute appendicitis in THE MEDICAL JOURNAL OF AUSTRALIA of April 19, 1924.

In that paper it was pointed out that the primitive alimentary canal underwent a rotation (anti-clockwise) around the superior mesenteric artery as an axis and thus the ascending colon and its mesentery took up a position against the posterior abdominal wall. Furthermore, the permanency of the position of the ascending colon depends upon the adhesion of opposed peritoneal surfaces over a triangular area, limited laterally by the lateral border of the ascending colon, inferiorly by the new posterior attachment of the (adult) mesentery and superiorly by the attachment of the transverse mesocolon as far as the duodeno-jejunal flexure.

If we examine a series of mammals in which the ascending colon has undergone similar rotation, it is only in the pronograde group, for example lower monkeys, that we find a lack of fusion and persistence of the original ascending mesocolon with a mobile ascending colon.

On the other hand, in orthograde animals, for example the chimpanzee, the condition found differs little from that found in the human subject.

In the intermediate groups fixation of the ascending colon increases *pari passu* with the adoption of the erect position. Hence we may assume that fixation of this viscus is a necessary adaptation for the upright posture. It therefore follows that abnormal mobility of the ascending colon must be regarded as a developmental defect ill adapted to the upright position.

Morbid Physiology.

The various lesions described above do not have their own clinical individuality, but whatever be the anatomical nature of the lesion, the symptoms will have an essentially common character, namely pain in the right iliac fossa, due to an incomplete or momentary mechanical obstacle to the free passage of fæces and flatus which in turn leads to fæcal stasis and abnormal fermentation in the caecum with consequent distension and dilatation. Extensive recent investigations into the causation of this painful syndrome of the right iliac fossa have demonstrated that: (i.) The condition is not uncommon. In 20% of individuals of all ages some degree of abnormal mobility in the caecum and ascending colon will be found. The condition is much more common in women (80% of cases). It usually occurs in young thin adults from fifteen to thirty years of age and is about equally divided between married and single women. (ii.) There is always definite evidence of membrane formation; but similar membrane formation may be found associated with other conditions and may never have given rise to any symptoms. (iii.) There is always definite evidence of visceroptosis, either at operation or on radiographical examination; but again there are a multitude of persons with definite enteroptosis who have never complained of the above symptoms.

It would appear therefore that these membranes are merely a variation in normal development and in the ordinary course of events give rise to no symptoms.

Under the stress and strain of modern conditions of life an increasing number of individuals are found with a greater or lesser degree of enteroptosis which is dependent upon one of two factors: (i.) A congenitally bad body formation in a minority of cases and (ii.) an acquired condition due either to a combination of underfeeding and unhealthy surroundings in childhood or to atrophy and flaccidity of the abdominal muscles in later life.

The evidence at our disposal would suggest that both membrane formations and enteroptosis must

be present and symptoms occur only in the patient who, having membrane formation, later becomes affected by enteroptosis.

Symptoms.

Although great attention has been paid to the anatomy and morbid physiology of this condition, comparatively little interest has been taken in the clinical aspect of the subject. The gravity of these painful syndromes varies greatly, but, as has been pointed out, whatever be the nature of the anatomical lesion, they all give rise to similar symptoms. We can distinguish three clinical varieties according to the gravity and age of the lesions.

Chronic Appendicitis Type.

In the chronic appendicitis type there is a history of frequent attacks of dull aching pain or of a feeling of weight in the right iliac fossa, often at intervals of only a few days or weeks, sometimes extending over several months or even years. In none of these attacks has the patient been regarded as seriously ill, nor has the severity of the attacks increased. With this are often associated paroxysms of a more violent pain which commences in and is localized to the right iliac fossa. Vomiting occasionally occurs and gives little or no relief from the pain. There is no pyrexia, but headache, "biliousness" and constipation are common. There is a definite localized tenderness deep in the iliac fossa, but no superficial tenderness. Each attack is short and lasts only a few hours or days, but in the intervals of freedom there is usually a certain amount of flatulent dyspepsia.

The symptoms are usually exaggerated when the patient assumes the erect position or by walking or running. They may even disappear rapidly and completely when the patient lies down or more especially when he assumes the ventral or left lateral position. Conversely attacks may be provoked by any physical overwork, effort, travelling or dietetic indiscretion. In certain cases these painful attacks tend to occur at certain times of the day. They often begin one or two hours after a meal (compare the normal gastro-colic reflex) when the caecum is beginning to fill or in the late afternoon towards six o'clock when the caecum is distended by fæces and gas and contracts to empty itself. The patient suffers from constipation and may either have the impression of always having an insufficient bowel action or goes two or three days without a movement. From time to time diarrhœa intervenes and this relieves the patient and causes the pain to disappear for two or three days. This diarrhœa consists of abundant pasty, glazed, bulky stools (cow turds), abundant in mucus and adherent to the receptacle.

To sum up, the painful attacks are sudden, short, transient and constant in location, but are characteristically erratic and irregular in the times of their appearance, interrupting apparently good health at frequent intervals.

General visceroptosis is very common and either a tender, firm cylindrical mass (iliac pudding) or a distended gurgling caecum (gas tumour) will be almost always felt in the right iliac region. Many of these patients have already been operated on for "chronic appendicitis" but continue to suffer after the operation from the same symptoms.

Waugh has pointed out that with a mobile ascending colon this segment of bowel is mechanically inefficient for carrying out its normal function of pushing the semi-solid contents vertically uphill against gravity on account of the lack of purchase it should derive from firm fixation to the posterior abdominal wall. This functional disability leads to failure of propulsion of all the contents into the transverse colon, whilst at the same time the ileum is passing more and more chyme through the valve of the colon (ileo-caecal valve). Hence the explanation of painful syndrome of the right iliac fossa may be found in this resultant distension of the caecum.

Subacute Appendicitis Type.

It has probably been the lot of every surgeon to operate on patients whom he believed to be suffering from subacute appendicitis. He has found the appendix itself to be in a more or less normal state and the suspicion of the presence of some unrecognized lesion has subsequently been raised, owing to the fact that the symptoms tended to recur within a few months. In this group the symptoms appear in definite attacks. The onset consists of acute attacks starting in the right iliac fossa, often with a sense of swelling in that region and remaining limited to that area during the course of the attack. Nausea or actual vomiting and constipation are present and with these may be associated slight pyrexia, usually about 37·2° C. (99° F.). The attacks may suddenly cease at the end of one, two or three hours with many gurgling sounds in the right flank, an abundant expulsion of gas from the anus and the passage of large doughy stools like cow turds. Constipation is habitual, the movements being irregular and taking place only with the aid of laxatives.

On examination there will be rigidity and tenderness in the right iliac fossa and sometimes even an area of superficial tenderness in the "appendix triangle." The abdominal cutaneous reflex is definitely diminished on the right side. On palpation the caecum is found to be ballooned, distended, increased in volume, tympanitic, tender and fixed. During an acute attack it is not uncommon to obtain a succussion splash over this organ. In rare cases peristalsis of the caecum may become visible through the abdominal wall.

The explanation of such sudden crises is to be found in a limited or partial volvulus of a mobile ileo-caecal region (Wilms) or an acute kinking at the right flexure of the colon.

Autointoxication Type.

Since food is retained in the caecum to undergo a churning process as digestion progresses, it has been assumed that the caecum constitutes a sort of second stomach. But, on the other hand, if food stagnates an abnormally long time in the caecum the churning process is prolonged, the flora is modified and abnormal fermentation and putrefaction

may be produced. It therefore follows that in long standing cases in which the intestinal stasis has become more permanent, that there will gradually arise a group of symptoms largely dependent upon toxic absorption. It is to this group that Sir Arbuthnot Lane has directed so much attention.

Dominating the scene we always have pain occurring almost continuously with superadded attacks in which the pain has a tendency to radiate into the right flank, the lumbar or hepatic regions. Constipation often alternates with attacks of pain and diarrhœa. The stools then become doughy or half liquid, abundant in mucus, fetid and loaded with volatile fatty acids and ammonia. Examination of the fæces during the periods of constipation reveals overdigested stools composed of more or less hard scybala. The toxæmic symptoms are represented by cephalalgia which increases as the day goes on, lack of the power of concentration, inability to perform routine work, nausea and occasional vomiting with progressive emaciation. In advanced cases there will be pyorrhœa and pigmentation of the skin, most prominent at the seats of pressure or friction and in those areas normally more or less pigmented. The secretion of sweat is increased and frequently becomes offensive. The muscles are poorly developed and easily exhausted, the cardiac action is weak and respiration diaphragmatic in type.

Diagnosis.

Before the differential diagnosis of these conditions is attempted, certain lesions, such as ureteric calculus, chronic salpingitis and so forth, which closely simulate chronic appendicitis, must be excluded. The stools should be examined for thread or other worms and also for ova of parasites.

The above having been carried out, we must bear in mind that an exact diagnosis can be made only by a close analysis of the whole clinical picture and of the attacks of pain, by the character of the pulse and temperature during an attack, a blood cell count and finally by a full radiological examination.

Clinical Method.

The normal caecum is almost imperceptible to palpation, being sufficient to delimit and of doughy consistency. In these cases one can usually make out a "ballooning" of the caecum, when it forms an elastic, supple, resistant, swelling tympanitic to percussion. On harder pressure, tenderness is elicited and the caecum may empty, gurgling beneath the fingers. During or immediately following an acute attack of pain the caecum may give the impression of a tender, firm, spindle-shaped or cylindrical tumour lying in the right iliac fossa.

Radiographic Method.

By systematic X ray examination the whole colon can be studied in all its extent and the seat and nature of the lesion can usually be determined. Particular attention should be directed to:

(i.) The situation, size and form of the colon. These should be investigated, first with the patient in the vertical and then in the horizontal position.

(ii.) The mobility of the colon. This should be determined by palpation, while the position of the patient is altered and so forth. Normally there is a difference of about 7·5 centimetres (three inches) in the level of the caecum when skiagrams are taken with the patient in the standing and in the Trendelenburg positions. In enteroptosis the difference may be fifteen centimetres. The caecum can often be displaced from the side of the rectum to the level of the anterior superior iliac spine and across the mid-line. While the patient is in the left lateral position, a loaded mobile ascending colon may be seen with the screen to sag across the median plane to the left iliac fossa.

(iii.) Location of tender points in the vicinity of the caecum. Palpation reveals many points of tenderness distributed all around the caecum or along the median or lateral borders of the ascending colon.

(iv.) Progress of an opaque meal. The positions of the head and tail of an opaque meal ingested fourteen hours previously should be studied and successive examinations made every one to two hours. In the absence of any obstruction situated proximal or distal to the caecocolic segment the presence of a notable quantity of residue in the caecum after fifteen or sixteen hours denotes caecal stasis. Radiographers, however, have questioned the value of deductions drawn from this source, pointing out that normal individuals may exhibit a similar delay arising from nervous causes.

(v.) Vermiform appendix. In determining whether an appendix is diseased or not attention should be paid to its filling and emptying, its shape, mobility, position and the presence of concretions, hyperactivity, spasm or tenderness.

For further information on this subject the reader is referred to a paper in The Medical Journal of Australia of August 26, 1922, by Dr. J. G. Edwards.

A sharply localized point of tenderness either over the course or at the base of the appendix together with absence of mobility of the organ appears to be the most reliable radiological evidence of a diseased appendix.

Whether or not right-sided enteroptosis becomes finally established as a definite pathological entity, its clinical recognition and correction is undoubtedly important.

It cannot therefore be too strongly emphasized that radiological examination is absolutely essential for the accurate diagnosis of all chronic affections of the right iliac region, but it is of no less importance to control the X ray data by the clinical findings.

Conclusion.

In conclusion, if it be decided that a chronically inflamed appendix shall be removed, the small button-hole incision is to be most emphatically condemned, for the operation must be exploratory, a short cut to diagnosis. The diagnosis and prognosis must be withheld until after the operation. In the words of Sherren: "You may diagnose 'chronic appendicitis,' but you should never act on this diagnosis."

Reports of Cases.

A CASE OF A FULMINATING PURPURA.

By H. H. BULLMORE, M.B., Ch.B., M.R.C.P. (Edinburgh),
Honorary Physician to Saint Vincent's Hospital;
E. MARJORY LITTLE, B.Sc., M.B. (Sydney),
Honorary Pathologist to Saint Vincent's Hospital;
AND
R. B. LAHZ, M.B., Ch.M. (Sydney),
Resident Medical Officer, Saint Vincent's Hospital.

IN the case that we are reporting there can be no doubt that the condition described was due to hæmolysis and that the organism was recovered from the blood both before and after death. The history of the illness, sparse as it is, would indicate that the malaise and headache were the symptoms of the onset of the toxæmia which terminated as a septicæmia, the outstanding features being a fulminating purpura. We can only surmise that the portal of entry was in the tonsils. When the patient came under our observation the destruction of the faucial, palatal and tonsillar tissue was such as to be phagadenic and we cannot thus say that a secondary infection had not been superposed.

It is regrettable that records of the patient's condition in the early stages of the illness are unobtainable.

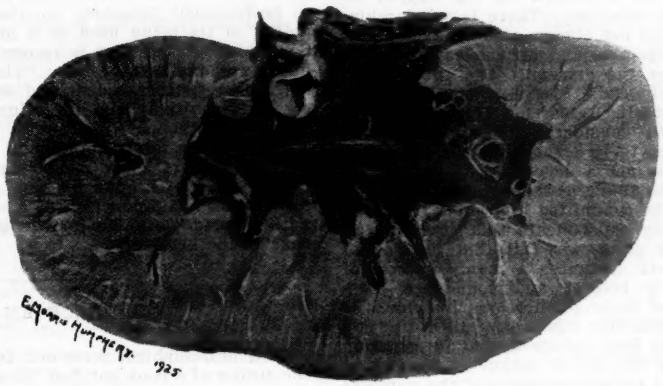
Clinical History.

J.A.T., aged thirteen, schoolboy, was admitted to Saint Vincent's Hospital on November 26, 1924. Mother and father were alive and healthy; two brothers and one sister died before reaching the age of two years. Two weeks before admission the patient was suddenly attacked with severe headache and general feeling of ill health. There were loss of appetite and feeling of great weariness. This state continued until three days before admission to hospital, when bleeding from the lips and gums commenced. Numerous bruises appeared on the body and limbs and the urine was coloured red. On admission there was excessive pallor, drowsiness, stertorous breathing and very foul breath. The temperature was 38·3° C. (101° F.).

Scattered over the face, body and limbs were numerous bluish-brown purpuric areas varying in dimensions from one square centimetre to thirty square centimetres. These were particularly prominent over the tibiæ and were accompanied by a slight degree of swelling. Enlarged matted glands were present in both submaxillary regions and the glands in both supraclavicular fossæ were enlarged to a lesser degree. The glands in axillæ and groins were palpable. There was bleeding from the gums and lips and the tongue was covered with moist greyish fur. The pharynx could not be examined on account of the enlarged tonsils which with the soft palate constituted one large bloody slough. The pulse was small and rapid, the apex beat was in the fifth space 7·5 centimetres (three inches) from midline and the heart sounds were clear and of good quality. The respiratory system appeared clear and the liver and spleen were not palpable. Pupils reacted to light and accommodation and knee jerks were present. The urine was red in colour and acid, its specific gravity was 1015 and it contained a heavy cloud of albumin, much blood pigment, many red blood cells and some granular casts. On the day of admission the leucocytes numbered 1,000 per cubic millimetre, neutrophile cells 5% and lymphocytes 95%. The red cells manifested no irregularity in size or shape and stained well. No nucleated forms were seen. On the following day an examination of the blood revealed the following: Erythrocytes 1,500,000 per cubic millimetre, hæmoglobin value 30%, colour index 1, leucocytes 1,600 per cubic millimetre, neutrophile cells 15%, lymphocytes 85%. The red cells again showed no alteration in size, shape or staining and again no nucleated forms were seen. The coagulation time of the blood was determined only after the administration of "Hæmostatic Serum" when it was found to be normal.

Cultures from the throat yielded pneumococci and a few fusiform bacilli. No diphtheria bacilli were recovered. Cultures of a drop of blood from the finger a few hours before death yielded a hæmolytic streptococcus.

The patient's condition became gradually worse, the throat becoming more obstructed and breathing more difficult. The hæmaturia ceased after the administration of three cubic centimetres of "Hæmostatic Serum" given subcutaneously. The pulse improved slightly after transfusion with six hundred cubic centimetres of blood. Eight hours before death tracheotomy was performed on account of the severe dyspnœa. The patient died on November 28, 1924, two days after admission. The temperature varied between 37·8° and 38·3° C. (100° and 101° F.), falling to subnormal a few hours before death.



Appearances Seen on Section of Left Kidney in Fulminating Purpura.

Post Mortem Notes.

Extreme pallor of the body was noticed. Hæmorrhage had occurred into the subcutaneous tissues in the neighbourhood of both orbits and petechial hæmorrhages were present over body and limbs. Enlarged glands were present in the neck and glands in axillæ and groin were palpable. The tonsils were covered with blood-stained necrotic material. The gums were soft and spongy and hæmorrhagic.

No free fluid was found in the pleural cavities. The mediastinal glands were not enlarged. The lungs presented numerous subpleural hæmorrhages with hæmorrhagic areas scattered through substance of lung.

The surface of the heart was covered with subpericardial hæmorrhages; the cavities were filled with red and white clot; the valves and coronary vessels were healthy.

A large retroperitoneal hæmorrhage extended from the region of the pancreas to cover the right kidney and the aorta as far as the lower pole of the kidney. The mesenteric glands appeared intensely hæmorrhagic. The liver was pale and was the site of numerous subcapsular hæmorrhages. The spleen was large and very soft. The pancreas appeared normal, but glands along its upper border were intensely hæmorrhagic. The kidneys were large and intensely congested; the pelvis of the left kidney was distended with recent blood clot. The appearance of this organ in section is seen in the accompanying illustration. The intestines were dotted with small subperitoneal hæmorrhages. The bone marrow (femur) presented no abnormal appearances. Cultures from the heart's blood yielded a pure growth of a hæmolytic streptococcus.

Histological Findings.

The cardiac muscle stains irregularly and in places the bundles are spaced out by an inflammatory exudate. Hæmorrhages are present. In the liver cloudy swelling of

the liver cells is seen with extensive hæmorrhage beneath the capsule.

The splenic pulp appears to be replaced in parts by extensive hæmorrhages; the Malpighian bodies stand out prominently. In the kidneys the glomerular tufts are swollen, with dilated congested vessels; the cells lining the tubules have undergone cloudy swelling; the intertubular vessels are dilated and full of blood and red blood cells are present in many of the tubules. Lymphatic glands from the neck, axillæ, groin, mesentery and region of the pancreas were examined. All manifested extensive hæmorrhages into the lymphatic tissue, particularly those from the region of the pancreas, mesentery and groin. The cervical glands in addition to the hæmorrhages, give evidence of an acute inflammatory reaction in the presence of catarrrh of the lymph sinuses.

Acknowledgement.

We are indebted to Dr. E. Morris Humphery for the drawing accompanying this report.

Reviews.

VITAMINS AND NUTRITION.

"THE NEWER KNOWLEDGE OF NUTRITION," by Professor McCollum and Dr. Nina Simmonds has been revised and rewritten for the third edition with undoubted advantage.[1] This is the best book yet published on the subject of accessory food factors or vitamins. There is scholarship, but there is also what does not always accompany scholarship, namely proper perspective and emphasis. It is just the sort of book to sober the extremist and the faddist, for it is restrained and logical. Professor McCollum has in the course of his protracted researches occasionally put forward conclusions with considerable assurance which later investigation showed to be erroneous. He supported the view that scurvy was not a deficiency disease, but a bacterial invasion and announced that simple aperients were preventive. Again he committed himself to the statement of opinion based on experiments that protein, fat, carbohydrate, water and salts were all that an animal required in food. In both instances a manly avowal of error gains the reader's respect and confidence. Less frank is his treatment of those publications in which he declared with typical vigour that wheat contained a poison in its germ oil. We have been informed that information was collected concerning the mouse plague in the wheat areas of Victoria and that reliable accounts of the numbers and health of these rodents were sent to Professor McCollum. The only reference in the book to the toxicity of wheat occurs on page 130: "The oil of which the germ contains about 10%, leaves a somewhat unpleasant after taste and is somewhat injurious to animals." This is a timid ending to his challenging conclusions.

At the close of the book there is a summing up and three principles are laid down for guidance in the betterment of human diet. First, the extension of the use of dairy products; second, the consumption in liberal quantities of leafy vegetables and third, the taking daily of a certain amount of raw vegetable food. If these three principles are adhered to there need be no fear that white bread or other milled cereal product or sugar or canned edibles will do harm. The authors lay particular emphasis on the diet of the pregnant and nursing mother. Indeed they call this section the keynote to the whole treatise. It was once assumed that all the milk produced by the healthy mammary gland was of good quality. That this view is very wrong is now recognized. An expectant or nursing mother must be given proteins of high biological value, sufficient calories in carbohydrate and fat and adequate vitamins and mineral water. The milk will always reflect the diet.

In Chapter XXIV. the authors deal with the dietary habits of man in different parts of the world. This is the least satisfactory portion of the book as it reviews in a sketchy manner a subject which requires handling in a larger way. There is a good bibliography and a fair index.

[1] "The Newer Knowledge of Nutrition: The Use of Foods for the Preservation of Vitality and Health," by E. V. McCollum, Ph.D., Sc.D., and Nina Simmonds, Sc.D. (Hygiene); Third Edition, Entirely Rewritten; 1925. New York: The Macmillan Company; Sydney: Angus & Robertson, Limited. Royal 8vo., pp. 675. Price: 21s. net.

GENERAL MEDICINE.

THE fact that the fourth edition of Dr. Tidy's "Synopsis of Medicine" has been called for in four and a half years is proof of its great sale and popularity.[1]

After an exhaustive search nothing but praise can be given for the accuracy and carefulness which is shown in the terse statements accorded to all the symptoms and signs of medical disease. From cover to cover all the marshalled facts are substantially correct.

It depends entirely on the person who may make use of this volume. The conscientious student who has followed the clinical teaching in the wards and the lectures on medicine in his school, could not do better than procure a copy of Tidy's synopsis, so as to review and refresh the knowledge acquired from his hospital teachers. The best *résumé* of all is that made by the earnest student himself. Unfortunately many very excellent students are not built that way. For them this work will be the greatest help. Otherwise there is just the fear that this compact, boiled-down "Osler" will be submitted to baser uses. Its accuracy and trustworthiness will appeal strongly to professional "coaches," so that there is a great probability of its being used as a manual in a "grind" class. Something of this sort is recognized by the author where he says in his first preface: "The synopsis cannot replace a textbook to the student and any attempt to make it do so, will inevitably end in failure." The word failure is rather ambiguous. What does Tidy mean by it? Any student with a minimum amount of clinical knowledge and a good memory after mastering this book, could hardly fail to squeeze through his final. If the author means by failure the non-production of a sound general practitioner with a good workable knowledge of his profession, well that is another story.

SURFACE ANATOMY.

IN a philosophical foreword Dr. J. Maclaren Thompson, the author of a book entitled "Elements of Surface Anatomy for Students of Medicine," points out that surface anatomy is preeminently a practical subject and can be learned satisfactorily only by being "done."[1] In other words, each individual structure should be marked out *seriatim* on the skin of a living model by means of suitable pencils or crayons. This little book is intended to serve as a guide to such a study and for this purpose it is eminently suitable.

The English translation of the Basle anatomical terminology (B.N.A.) has been employed almost exclusively, the old terminology being inserted in parenthesis. The subject is treated regionally and is divided into five sections: the head, the neck, the trunk and the superior and the inferior extremities.

The anatomy is sound and the book essentially practical, being obviously the work of a competent teacher.

In relation to intestinal topography we are disappointed that an assistant professor of anatomy should leave much that is of prime importance unsaid. After a careful perusal of the work, however, we have every confidence in recommending it not only to the student in anatomy and surgery, but also to the demonstrator of anatomy and teacher of surgery.

[1] "A Synopsis of Medicine," by Henry Letheby Tidy, M.A., M.D., B.Ch. (Oxon.), F.R.C.P. (London); Fourth Edition. Revised and Enlarged. 1925. Bristol: John Wright and Sons, Limited. Crown 8vo., pp. 1,000. Price: 21s. net.

[1] "Elements of Surface Anatomy for Students of Medicine," by I. Maclaren Thompson, B.Sc., M.B., Ch.B. (Edinburgh); 1925. Edinburgh: E. and S. Livingstone. Crown 8vo., pp. 172. Price: 5s. 6d. net.

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Decentralization.

The Royal Commissioners on Health have formed the opinion that the health of Australian citizens could be safeguarded by imposing on the local authority the onus of the administration of the health laws and regulations. The form of decentralization recommended is the only one that finds favour at the present time. It entails the setting up of a central authority whose primary function is that of prescribing general principles and minimum requirements; the main work of applying these principles and of satisfying these minimum demands is left to the local authority. One of the chief difficulties of such a system resides in the fact that the local authority frequently evades its duties. The expedient of giving the central authority power to carry out the work and to compel the defaulting local authority to pay for the work done on its behalf has been introduced into the legislation of the States, but this is usually insufficient. In the first place there has been no attempt in the past to make use of this power save in regard to sanitary services. The more important measures of tracing infections to their sources and of checking the spread of infection are rarely applied by the central authority. In the second place the central authority is often unaware of the fact that a local authority is not carrying out its duties, because of the inadequacy of the supervision. In the third place the central authority in the several States has not set up comprehensive general principles and minimum requirements consistent with the accepted doctrines of modern hygiene. It is obvious that under the existing systems the local authorities with a few notable exceptions fail lamentably to provide an adequate health service.

In these circumstances we are faced with the paradox that the best service for Australia is one dependent on a system of decentralization with a strong and vigilant central control. The success or failure of such a scheme must depend partly on the powers of the central authority, its form and its relations to its neighbours, partly on the scope and nature of the principles and minimum requirements on which the whole scheme of preventive medicine is to be built, and partly on the machinery provided to induce the local authority and the medical profession to take an active and intelligent part in the campaign. Each of these points has been fully discussed by the Commissioners. They have been discussed and elaborated in the Hone-Newland report which has the approval of the Federal Committee. It will be noted that the proposals depend on a plan of cooperation between the Commonwealth Department of Health and the State Departments of Public Health, without any modification of the Constitution of Australia. There would be one important innovation, namely the formation of the Federal Health Council. The Commissioners recommend that this Council should be composed of the Director-General of Health of the Commonwealth and two other representatives of the Commonwealth Department of Health, the chief medical officers of each State, a financial expert of the Commonwealth Government and possibly two representatives of the British Medical Association, nominated by the Federal Committee. This Council would consequently be competent to deal with matters affecting the welfare of any part of Australia as well as of Australia as a whole. Moreover, it should be remembered that the Commonwealth Department of Health would have three seats on the Council and the State Departments would have six. This is important, since it is not suggested that the Commonwealth should take over the control of health and consequently the State departments must remain the final arbiters as far as their own areas are concerned. At present more or less formal conferences of representatives of the Commonwealth and State Departments are held from time to time, but these conferences have no constitutional powers and no compelling force. The findings are often ignored. The deliberations of the Council would have to be recognized and the findings would have to be binding on the central authorities. Otherwise the establishment of a Federal Health Council would be futile. The Commissioners state that the objects of the Council should be to devise measures for cooperation between the Commonwealth and the

States and between State and State and to promote uniformity in legislation and administration when desirable. In another part of the report they propose that the Commonwealth Department of Health should lay down certain general principles of health legislation and administration. It is not quite clear whether the Commonwealth Department of Health should carrry out this function independently or whether the Federal Health Council should be used for this purpose. As the proposed system is essentially one of decentralized administration, it would be dangerous if the Federal and the several State Departments constituted in effect parallel central authorities. On the other hand if the Federal Health Council existed as an instrument for the coordination of effort and for the establishment of basic principles on which the local administration were founded, the central control could be exercised by the State Department of Public Health with advantage in all parts of the Commonwealth. Without such a coordinating machine the existing defects of health legislation and its administration could not be removed, even if the local authorities were coerced into activity.

Current Comment.

PURPURA.

MANY hypotheses have been put forward in regard to the causation of purpura. It has not yet been proved that any one cause or set of causes is responsible for all its forms. It may arise in association with a variety of diseases and on the other hand the hæmorrhages may be the only obvious abnormality. These diseases include pneumonia, cerebro-spinal meningitis, pyæmia and septicæmia. Bullmore, Little and Lahz report in this issue a fatal case of purpura in which a hæmolytic streptococcus was recovered from the blood of a patient. It must also be remembered that purpuric phenomena are not uncommon in such diseases as typhus fever, smallpox and measles. What part microorganisms of accompanying disease play in the production of purpura is obscure. Obviously the mere presence of organisms in the blood is not sufficient. It has been suggested that they produce some chemical change in the walls of the vessel and so allow either rupture or diapedesis to occur. An opposite view is that both the presence of organisms in the blood and the hæmorrhages may be the result of some entirely different cause. The appearance of purpura after the introduction of serum into the body led to the view that it was an anaphylactic phenomenon. Glanzmann divided purpura into two groups. One he called the anaphylactic group and the other included those conditions known as Werlhof's disease. In the first he placed all manifestations of purpura characterized by infective symptoms and in the second those in which cutaneous hæmorrhages and hæmorrhages from mucous membranes were intense and in which anomalies in the number of blood platelets and in coagulation were present. Hanns and Weiss pointed out that the conception of purpura as an anaphylactic phenomenon was based on its appearance after serum injections and on the analogy between the symptoms of purpura and those of serum disease, especially those symptoms which affected the gastro-intestinal tract and those which were seen in Henoch's purpura. Hanns and Weiss also suggested that the anaphylactic hypothesis might be tested by the production of anaphylaxis in a patient who had previously suffered from purpura in order to see whether or not a subsequent attack of purpura occurred. They described a case in which urticaria but no purpuric symptoms occurred after serum injections in a purpuric subject. They thought that isolated cases of purpura of an anaphylactic type might occur, but could not bring themselves to regard all purpura as anaphylactic.

Gedson has done much work on the experimental production of purpura. In 1922 he reported the results of his experiments on guinea pigs by the use of antierythrocyte, an antiplatelet, an antileucocyte serum, a serum obtained after the injection of whole blood and a precipitating serum. He examined particularly the counts of red cells, white cells and platelets during life and the presence of hæmorrhages after death. Hæmorrhages were found *post mortem* only in those animals which had manifested a low platelet count, and this phenomenon was noted only in those which had been treated with antiplatelet serum and with serum obtained after the use of whole blood. By absorbing the red cell agglutinin from an antiplatelet serum and using this he claimed that he was able to show that hæmagglutination plays no part in the production of purpura. At the same time he pointed out that the mere reduction in the number of platelets, such as is occasioned by the intravenous injection of peptone or of agar-serum, is insufficient to cause the appearance of purpuric manifestations. He concluded that some additional factor must be operative. This, he thought, was probably a degeneration of the endothelial lining of the blood vessels secondary to the action of a toxin.

Dr. Louis A. Julianelle and Dr. Hobart A. Reimann have recently recorded some experimental work which is of interest in this connexion.[1] They refer to observations by Neill that when extract of the pneumococcus is injected into white mice, hæmorrhagic purpura results and have "studied the nature of this phenomenon." They found that four to six hours after injection of the animals with an extract of the pneumococcus the feet, tail, ears, snout and genitalia of white mice assumed a dark

[1] *The Journal of Experimental Medicine*, January 1, 1926.

purplish colour. This appearance was confined to areas in which hair was scanty and shaving of the skin before injection did not alter the site of the discoloration. Unless the amount of extract injected was large, the animals showed no signs of intoxication and recovered. The lesion was at its point of maximum density in twenty-four to forty-eight hours and, slowly disappearing, vanished entirely in five to seven days. On *post mortem* examination it was found histologically that the lesions were not confined to the skin, but were present in the lungs and voluntary muscles. The lesions were seen to consist of extravasation of blood into the loose tissues surrounding the blood vessels. Collections of polymorphonuclear leucocytes were frequently found in the hæmorrhagic areas. Similar changes were produced in guinea pigs and rabbits.

Dr. Julianelle and Dr. Reimann record a series of observations on various methods of preparing and treating cultures of pneumococci prior to injection for this purpose and conclude that the substance which on injection gives rise to purpura, is contained in the bodies of the pneumococci and is set free by the process of extraction. At the same time they add that this substance is occasionally found in the culture filtrate. The purpura-producing principle was obtained from pneumococcal extracts by full saturation with ammonium sulphate after acetic acid had been added and the precipitated substances removed. After being heated to a temperature of 100° C. and maintained at that level for ten minutes the extract still produced purpuric manifestations in animals. The purpura-producing principle was found to resist oxidation, it was filter passing and its activity was destroyed by trypsin. Bile solutions of pneumococci did not yield the purpura-producing principle and on the other hand bile did not prevent its activity. It has been shown that those constituents of the pneumococcus which exist preformed in the cell, are recoverable by dissolution of the cell with bile. The purpuric principle was found to be present in those materials alone which represent degradation products of pneumococci. Dr. Julianelle and Dr. Reimann thus conclude that it is probable that the purpura-producing principle is due not to a constituent of the living pneumococcus cell, but to a degradation product of the pneumococcus.

If any significance is to be attached to these observations as far as purpura in the human subject is concerned, it is obvious that the possibility of other organisms acting in the same way as the pneumococcus must be investigated. As has been already pointed out, purpura has been known to accompany disease produced by the pneumococcus in man, but the association is rare. Dr. Julianelle and Dr. Reimann tried to obtain purpuric responses to extracts of other microorganisms. Experiments were made with two strains of *Staphylococcus aureus*, three strains of *Streptococcus viridans*, one strain of *Streptococcus hæmolyticus*, one of *Bacillus coli communis* and four strains of meningococci. In no instance was purpura produced. The number of observations is very small. Dr. Julianelle and Dr. Reimann state no conclusion in regard to this matter. In this they are wise. Probably with some modification in technique results might be obtained.

Included in the observations of these two workers is an investigation into the effect of pneumococcus extract on blood platelets and corpuscles. The extracts were found to be both thrombolytic and hæmolytic. At the same time they found that the hæmolytic activity of an extract could be destroyed without any resulting alterations in the ability of the extract to cause purpura. The authors claim to have studied the nature of the phenomena about which they write, but with the exception of the observations mentioned they enter into no discussion on the essential nature either of clinical purpura or of the experimental lesions produced by them.

In the consideration of the cause of purpura difficulties are experienced. If some common point of departure can be found for the apparently divergent views extant, it is possible that a solution may be found. In these circumstances it may not be out of place to refer to the views of d'Herelle on the whole question of immunity. He points out that living matter always reacts to stimulation and that the reaction is effected according to a scheme that harmonizes with the excitation. The essence of this rhythm is not known, but the mode of reaction of living matter is spoken of as "specific." He holds that there is only one specific reaction. Whether it be the endothelial cell reacting to the stimulus provided by the toxin micella, whether it be the endothelial cell reacting to a protein micella either living or inanimate, whether it be the epithelial cell or the nervous cell reacting to a pathogenic virus or whether it be the bacterium reacting to the excitation caused by the bacteriophage, the specific reaction is the same in all cases. There is an inactivation of the exciting principle through the intermediary of a flocculating principle elaborated by the cell. The response of living matter, according to d'Herelle, is single not multiple and whether the product of this response be termed sensitizin, antitoxin or antivirulin, it is always a "flocculin." The specific reaction is a physico-chemical process and expresses itself by a series of phenomena. Some of these are acts of protection or prophylaxis and others are acts of contraprotection or anaphylaxis. D'Herelle's conception of immunity is dependent on the assumption of an alteration in the colloidal state of the contents of the individual cell. Such an alteration is occasioned by the introduction of foreign protein whether of bacterial or other origin. If d'Herelle's hypotheses are accepted, it becomes possible to coordinate the views of different workers on the question of purpura; it becomes apparent why the picture of clinical purpura sometimes resembles an acute bacterial intoxication and why it sometimes appears justifiable to regard it as an anaphylactic manifestation. The views put forward by d'Herelle may not ultimately be accepted in their entirety, but at any rate they are reasonable and offer a single explanation for phenomena which are apparently irreconcilable.

Abstracts from Current Medical Literature.

PÆDIATRICS.

Treatment of Spasmophilia with "Insulin."

A. ADAM (*Klinische Wochenschrift*, August 6, 1925) has treated spasmophilia in infants with injection of "Insulin" associated with adrenalin. The "Insulin" was given in doses of one to one and a half units per kilogram of body weight. Adrenalin was used in doses of 0·5 to one cubic centimetre. Immediately after the injections and at half hourly intervals for the next three hours three to five grammes of sugar were given by the mouth. If the sugar was not tolerated, subcutaneous injections were substituted.

Growth, Development and Prognosis of Diabetic Children.

E. P. JOSLIN, H. F. ROOT AND PRISCILLA WHITE present for study the material afforded (*The Journal of the American Medical Association*, August 28, 1925) by observation during the last twenty-seven years of three hundred and two diabetic children. The disease began in all these patients before they reached the age of fifteen years. Prior to the introduction of "Insulin" therapy an increase in weight was a rare and extraordinary event in the history of a diabetic child. But the weight of the child treated with "Insulin" does increase and may even exceed that of a normal child. The gain in height, however, is less than in non-diabetics. No diabetic girl ever menstruates without "Insulin" treatment. The sexual development of the diabetic child treated with "Insulin" proceeds normally. At one time the young with diabetes rarely survived; it is now rare for a diabetic child to die. Of the patients investigated, twenty of those treated with "Insulin" have lived for 4·4 years and are now in much better health than at the commencement of the disease. Pathological investigations reveal that regeneration of the island cells of the pancreas occurs and forms a basis for the clinical statement that if the diabetic patient survive the first year of his disease, his expectation of life is much increased, since a renewal of pancreatic activity has then commenced. These authors conclude, therefore, that on clinical, pathological and therapeutic evidence no limit can be placed to the possible improvement in the diabetic child.

Carbohydrate Metabolism of the Marantic Infant.

FREDERICK F. TISDALL, T. G. H. DRAKE AND ALAN BROWN (*American Journal of Diseases of Children*, December, 1925) discuss the carbohydrate metabolism of the marantic infant. Various investigators have found that large amounts of carbohydrate can be fed to marantic infants without any appreciable amounts appearing in the stools. While in many infants with diarrhœa part of the ingested carbohydrate is fermented in the gastrointestinal tract and thus lost, there is no evidence from the examination of the stools of marantic infants without diarrhœa that there is excessive fermentation of carbohydrate. On account of the frequency with which marantic infants develope gastrointestinal disturbances, Fleming believes that failure of the gastrointestinal tract to deal with carbohydrate satisfactorily, is an important factor in the production and maintenance of atrophy. The authors point out that the resistance of marantic infants to infection is less than that of the normal infant. In their experience gastrointestinal disturbances in these infants are almost invariably secondary to parenteral infections and are probably not due to any inherent derangement of the functions of the gastrointestinal tract. It is known that the administration of carbohydrate stimulates the ability of the organism to remove glucose from the blood stream. The sugar tolerance curves of marantic infants were determined after the intravenous injection of glucose. The carbohydrate content of their food was increased from 8% to 16% and after a few days the sugar tolerance curve was again determined. The injected glucose was removed from the blood stream more rapidly after the infant had received the high carbohydrate diet than before. There is thus no evidence that the marantic infant is not able to digest and absorb carbohydrate in a normal manner, provided no diarrhœa is present. From a review of the literature the authors conclude that the heat output per kilogram of active metabolic tissue is approximately the same in the marantic infant as in the normal infant. The fact that the marantic infant has not the insulating layer of fat which the normal infant has, would tend to an increased heat loss. There is no evidence to indicate that there is any great abnormality in the heat production, but rather that there may be a slightly increased heat production in response to an increased heat loss. Observations on the ability of the marantic infant to remove injected glucose from the blood stream show that when the amount given is calculated on the basis of the active metabolic tissue present, these infants remove the injected glucose with the same rapidity as the normal infant. The only abnormality in the carbohydrate metabolism the authors were able to find, was that the average fasting blood sugar is about 10% lower than that of the normal infant. Rumpf found a similar reduction in infants who had been starved for twenty-four hours. The authors conclude that marantic infants absorb and metabolize carbohydrates in a normal manner, with the exception that they have not the stabilizing influence on the fasting blood sugar level of an adequate reserve of glycogen. Considering the caloric requirements of these infants on the basis of the active protoplasmic mass and making due allowance for the inactive metabolic tissue which is absent in the marantic infant, the authors estimate that if the requirement of the normal infant is 100 calories per kilogram per day, the marantic infant requires 155 calories per kilogram per day.

Collapse of the Lung.

J. P. CROZER GRIFFITH (*Medical Journal and Record*, January 20, 1926) describes and discusses a case of massive atelectasis or collapse of the lung in an infant of three weeks old. A slightly premature baby, two weeks old, exhibited some indigestion, but no other symptoms except a tendency to regurgitation of food through the nose while taking the bottle. The baby had been artificially fed almost from birth. One week later without change in symptoms, signs of extensive consolidation of the right lung appeared with displacement of the heart to the right and elevation of the diaphragm on the same side. There was no alteration of pulse, respiration or temperature and the general condition improved steadily. About a week later all signs of consolidation had disappeared and X ray examination revealed that the heart had returned to its normal position. In discussing the diagnosis of the condition the author excludes atelectasis of the newly born, because of the absence of symptoms, such as great prostration, rapid and feeble pulse, shallow and rapid respirations and dyspnœa. The various causes of massive collapse of the lung may be placed in two groups, those which produce interference with the respiratory movements and those which bring about obstruction somewhere in the bronchial tree. Fifteen of the cases reported by Pasteur which occurred in children, were instances of diphtheritic paralysis and in these the muscles of respiration including the diaphragm were more or less involved. The author suggests as a possible cause in his case the unusual interference with the swallowing of food. This difficulty consisted chiefly in the regurgitation of milk through the nose. There possibly existed here a deficient action of the palate. Some food may have entered the right bronchus and through the irritation produced, secretion of viscid mucus and a blocking of the bronchus may have taken place.

ORTHOPÆDIC SURGERY.

The Royle Operation for Spastic Paralysis.

PHILLIP LEWIN (*Surgical Clinics of North America*, August, 1925) makes a report upon sixteen cases in which sympathetic ramisection was performed by Royle in Chicago. Five patients were subjected to the cervical operation and of these four improved and no report of one was avail-

able. There were eleven patients subjected to lumbar ramisection and although the majority of these suffered from paraplegia the report of the operation covers only the effect produced by the procedure on one side. Of these patients five were improved and striking improvement occurred in four. In reference to only one case does the report cover the effects of a bilateral operation and in that instance striking improvement is recorded. The author says that many operations will be performed on improperly selected patients by surgeons unqualified to do the work who do not know how to examine the patients either before or after operation. He also suggests that the operation of sympathetic ramisection will have a definite value in treating vascular diseases of the extremities.

End Results of Treatment of Knee Joint Tuberculosis.

Russel Hibbs and H. von Lackum (*The Journal of the American Medical Association*, October 24, 1925) deal with the end results of seventy-seven cases of knee tuberculosis. In the estimation of end results joint tuberculosis was considered quiescent or clinically cured only when all the muscle spasm or other symptom suggesting active disease had disappeared. The cases considered were those of patients admitted during the period 1904 to 1921. The age of the patients varied from nine months to fourteen years and the average age of onset was four years. In reviewing the entire seventy-seven patients it is striking how few of them were normal persons and the youngest with one exception showed definite evidence of enfeebled growth. Trauma did not appear to be a factor in the causation of the disease. Cutaneous tuberculin tests when done yielded a reaction in all but two cases. The Wassermann test yielded a positive result frequently enough to indicate that two diseases may often exist in the same person. Seven children died. Three died of tuberculous lesions, three of pneumonia and one following a laparotomy. In three out of sixteen observed while the disease was active the condition has become quiescent. In four cases in which the disease remained active, the affected knee has been fused by operation. The authors contend that the history of their patients shows that treatment is more successful in country than in city hospitals and further hold that operative treatment is conservative rather than radical. In fifty-one patients who were regarded as clinically cured, the average time required to accomplish this result was six and a half years. The longest period in a single case was thirteen and a half years and the shortest was two years and eight months. In sixteen of the fifty-one patients recurrence took place after periods varying from nine months to ten years. Thirty-five lesions of the fifty-one have remained inactive. Of this number ten are in children who obviously never had tuberculosis. Seven of the patients have perfectly free knees and show no evidence of ever having had any knee disability. Of the twenty-five remaining patients only five suffered from ankylosis. Movement is present in twenty cases and varies from ten to one hundred degrees and in nine there is less than forty-five degrees. In the entire series sixteen joints were fused by operative means and none of them have had the slightest evidence of disease since that time. An average of seven months was consumed in gaining bony fusion. The influence of the disease on growth is shown by the fact that in one half of the cases there is lengthening of the lower limb and the patella is almost invariably enlarged on the diseased side. The authors contend that their study gives convincing evidence that the methods of diagnosis employed in these cases are wholly untrustworthy. They know of no method of making a diagnosis excepting by aspiration or by exploratory operation with tissue examination and guinea pig inoculation. They aim at establishing a diagnosis before any treatment is undertaken. The possibility of curing tuberculosis of the knee with mobility is doubtful. Fusing the knee offers the only means of curing the disease; it should be done early and does not interfere with the growth of the leg.

An Operation for the Relief of Acromio-Clavicular Luxations.

James T. Watkins (*Journal of Bone and Joint Surgery*, October, 1925) describes an operation for the relief of acromio-clavicular luxations. He points out that the real cause of the deformity is the tearing of the coraco-clavicular ligaments. To effect a restoration of the parts concerned the author passes heavy silk, specially prepared, through a hole bored through the base of the coracoid process. The space between the coracoid and the clavicle is cleaned out and two holes are drilled through the clavicle. The silk is also passed through these two holes while the clavicle is forced downwards into place. The silk is tied and the knot is hammered flat. The coraco-clavicular ligament is next repaired and the arm immobilized in maximum elevation. This position is maintained for three weeks and at the end of eight weeks the patient is ready to undertake ordinary occupations.

Changes in the Articular Surfaces in Tuberculous Arthritis.

P. Phemister (*Journal of Bone and Joint Surgery*, October, 1925) records his observations on tuberculous arthritis. In the early stages of tuberculous arthritis the articular cartilage is usually destroyed most extensively upon its free articular surfaces by granulations which overgrow it from the surrounding synovial membranes. In the regions of contact and pressure surface destruction by granulations does not take place and the cartilage is preserved the longest. As the disease progresses, subchondral granulations absorb the cartilage from beneath. In severe tuberculous arthritis there may be early necrosis and caseation of the overgrowing synovial granulations and little destruction of the articular cartilage along its free surfaces. The bone involvement along the articular surface may be either primary or secondary. When primary, the dead bone may break down and leave a cavity or may form a sequestrum which has articular cortex and in some instances cartilage preserved upon it. Secondary involvement of the bone upon the articular surfaces may lead either to destruction in the entire articular cortex by superficial caries or to more or less extensive and deep areas of necrosis at the points of deepest pressure of the joints.

Vertebral Epiphysitis.

Joseph Buchman (*Journal of Bone and Joint Surgery*, October, 1925) draws attention to vertebral epiphysitis as a cause of spinal deformity. Several X ray plates are reproduced showing this condition. The ætiology of the condition is undecided. Normally the superior and inferior inflammatory vertebral epiphyses appear at eleven and a half years of age. Any deviation from this time, the presence of tenderness and abnormal X ray findings indicate a pathological condition. These generally occur between the age of ten and twenty-one and give rise to signs of fatigue and backache. In many of these cases deformities of the spine subsequently occur.

Reformation of Synovial Membrane.

J. Albert Key (*Journal of Bone and Joint Surgery*, October, 1925) undertook an investigation to ascertain how a joint behaved when the synovial membrane had been removed. He used rabbits for his experiments and examined the knee joint at periods varying from two to one hundred and four days after operation. He used only the knee joints which had not become infected. He found that function was apparently normal in a few days after the operation and in no case was there limitation of movement or limp. He describes the macroscopical appearance and the microscopic changes in these joints and the article is illustrated with a number of microphotographs. After the removal of the synovial membrane the joint is filled with a mixture of blood and synovial fluid, a clot of cells and fibrin adheres to the denuded surface. The clot becomes organized and the blood becomes absorbed. The connective tissue proliferates and forms a new synovial membrane which can be distinguished only with difficulty from that of the normal joint. In the author's series exostoses on the medial condyle of the femur were frequent and were believed to be due to injury to the periosteum at the time of operation.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the Coast Hospital, Little Bay, on October 8, 1925.

The meeting took the form of a series of clinical demonstrations.

Stokes-Adams's Syndrome.

A male patient, aged sixty years, by occupation a cab driver, had been admitted to hospital on April 29, 1925.

He had complained that he had been getting short of breath on taking exercise for the previous four years. He had been working up till about three weeks previously. At that time he had "swooned" while driving a cab and had been unconscious for about five minutes. The patient had recovered consciousness unaided and had been able to continue his work. Subsequently he had rested at home for two days. He had then gone to work again and had suffered from a similar attack of unconsciousness followed by weakness. After a few days he had had another similar attack just after breakfast.

A doctor had been summoned and the following day the patient had been admitted to the Coast Hospital.

Born in Yorkshire, the patient had lived in Australia for sixteen years. He had been married for forty-one years. One of his children had died at the age of two years, one had been still-born and his wife had suffered from one miscarriage. The family history had contained nothing of importance. Inquiry into the patient's personal history had revealed the fact that he consumed a moderate quantity of spirits and smoked three and a half ounces of tobacco a week. He had suffered from gonorrhœa thirty years previously and from a penile sore five years later.

On examination after admission the patient had smelt strongly of alcohol; he had been flushed and talkative. Tremor had been present, the tongue had been very red and the teeth had been in moderately good condition. On auscultation of the heart the sounds had been distant, a to and fro murmur had been present at the aortic area. The abdomen had been full. No œdema of the legs had been present. The knee jerks had been active and the pupils sluggish.

After admission to hospital the patient had been subject to several convulsive seizures. He had been treated by oral administration of iodide of potash. The serum had not reacted to the Wassermann test.

Dr. Hamilton Marshall had advised the administration of morphine. During consciousness the patient had exhibited the Stokes-Adams syndrome with cerebral symptoms.

Pituitary Tumour.

A male patient, aged fourteen years, had been admitted on July 7, 1925, with a history of headache and vomiting.

The boy had collapsed at school and had been unconscious for about a quarter of an hour. On admission he had complained that he was unable to raise his legs, they felt stiff and tingling sensations were present when he attempted to move them. These symptoms had been more noticeable in the right leg. The patient had been able to raise his arms, but not to keep them in an elevated position. He had complained of slight pain in the back of the neck and of headache only when he tried to sit up.

It was pointed out that the patient's appearance approximated somewhat to the Mongolian type. The mental condition was good. Enlargement of the *sella turcica* had been found on radiological examination.

Dr. A. Tange Dunlop had reported some blurring of the discs on ophthalmoscopical examination. The cerebro-spinal fluid had not reacted to the Wassermann test.

Dr. A. W. Campbell had seen the patient and had made a diagnosis of cerebral tumour of extrapituitary origin. Dr. Campbell was of the opinion that enlargement of the *sella turcica* had resulted from downward pressure of the growth.

Lobar Pneumonia.

A male patient, aged forty-two years, a wharf labourer, had been admitted to hospital on September 5, 1925, suffering from an unusual form of lobar pneumonia. Extensive consolidation had been present in the left lower lobe. The patient had not complained of shortness of breath and had not suffered from cough. Pneumococci had been found in the sputum and the leucocyte count had been 17,500 per cubic millimetre. At no time had the temperature exceeded 38·5° C. (101·4° F.) and on one occasion only had the respirations numbered thirty-two in the minute, the average being from twenty to twenty-four.

Hodgkin's Disease.

A male patient, twenty-three years of age, a mail man, had been admitted to hospital on May 18, 1925, with a history of six months' illness. His first symptoms had been weakness. Following this he had noticed frequent colds and troublesome cough. Two months before admission the glands in his right groin had become enlarged and similar swellings had appeared in the left groin, in both axillæ and in both sides of the neck. At the same time he had felt a dull aching pain in the back and stiffness of the right leg and right arm.

It was pointed out that at the time of admission the patient was intelligent. The left pupil was larger than the right and both pupils reacted well to light. No weakness was apparent in the facial muscles and the cardiac apex beat was situated in the fourth intercostal space. At this time the abdomen had been distended and tympanitic and tenderness had been present over both kidneys. Definite kyphosis had been present with angulation at the site of the sixth and seventh thoracic vertebræ. No tenderness of the spine had been present. The glands in axillæ, groins and neck had been enlarged, hard and painless. Both legs had been thin and wasted and both knee jerks had been exaggerated. Ankle clonus had been elicited and the plantar reflex on both sides had been of the extensor or Babinski type.

Examination of the blood had revealed an erythrocyte count of 4,000,000 per cubic millimetre with a hæmoglobin value of 80% and a colour index of 1. The leucocytes had numbered 30,000 and a neutrophile leucocytosis had been present. The blood had not reacted to the Wassermann test. A week later the leucocyte count had been 35,000 per cubic millimetre, while the neutrophile cells had numbered 80%, the lymphocytes 18% and the eosinophile cells 2% of the total.

The sputum had been examined for tubercle bacilli, but none had been found. On examination by X rays considerable mediastinal enlargement of the glands had been found together with rarefaction of the bodies of the ninth, tenth and eleventh thoracic vertebræ.

A gland had been removed and report received from the Board of Health to the effect that hyperplasia of the lymph glands was present and that the cells were slightly larger than normal as a result of nodal arrangement. Occasionally larger cells with several nuclei had been found. The appearances had been regarded as compatible with the diagnosis of Hodgkin's disease.

The patient had been put on increasing doses of Fowler's solution.

On July 9, 1925, the glands had appeared smaller, but some abdominal distension was still present. Wasting of the interossei and palmar muscles of the hands had been noted together with flaccid paresis of both upper limbs. In the lower limbs spastic paralysis had been pronounced. No disturbance of sensation had been present, but much wasting had taken place.

On July 27, 1925, the patient had been seen by Dr. A. W. Campbell who had considered that the absence of pain and of disturbance of sensation was against the motor symptoms being caused by the pressure of glands on the brachial plexus or by spinal caries. He thought that in all probability the patient was suffering from a form of lateral sclerosis.

Antral Suppuration with Metastatic Osteomyelitis of the Pubis.

A male patient, aged nineteen years, had been operated on for suppuration of the left antrum on July 5, 1925. Three days later he had complained of pain in the lower part of the abdomen just above the left external abdominal ring. The patient's face had been very swollen, but this had rapidly improved. The pain above the pubes had persisted and on X ray examination a definite irregularity in outline had been found at the *symphysis pubis*. Three weeks later X ray examination had revealed bony destruction at the region of the pubic symphysis and of portion of the left inferior ramus of the left pubic bone. At the time of demonstration some regeneration of bone in the pubes was taking place.

Septic Thrombosis: Ligation of Axillary Vein.

A male patient, aged thirty-three years, a carter, had been admitted on August 10, 1925, with a septic hand. Incisions had been made in the affected area and the fifth finger had become gangrenous and had been disarticulated. Subsequently the patient had suffered from rigors and hyperpyrexia. Swelling had occurred along the medial aspect of the arm and this had extended into the axilla, while œdema of the whole arm had been present. Dr. T. M. Furber had recommended ligation of the axillary vein in view of the evident thrombosis below this level. This operation had been carried out by Dr. McMaster and no evidence of thrombosis in the exposed area had been found. The patient was making a good recovery.

Postdiphtheritic Paresis.

A male, aged four and a half years, had been admitted to hospital on August 18, 1925. The history given was to the effect that the child had been ill for one day with sore throat and vomiting. Diphtheria bacilli had been found on examination of the throat swabbing.

On September 21, 1925, the child had suffered from nasal intonation of the voice and regurgitation of food through the nose. The heart sounds had been of good tone quality, but frequent extra systoles had been present. Subsequently the soft palate had dropped to such an extent that the uvula was in close contact with the dorsum of the tongue. It was pointed out that on admission and on the subsequent day 20,000 units of antitoxin in all had been administered. At the time of demonstration definite improvement was present.

Carbuncle.

A male patient, aged fifty-six years, had been admitted to hospital with a carbuncle on his neck. The carbuncle measured twelve and a half by ten centimetres (five by four inches). It was explained that the treatment adopted was by strapping. According to this method the tissues beyond the edge of the carbuncle were pinched up tightly and a piece of strapping applied. At right angles to this the same procedure was followed, the tension being kept up all the time. More strapping followed until the base was firmly held. Internal to this layer another overlapping the first was placed until a central patch about 2·5 centimetres was left uncovered. The carbuncle would discharge into this space comparatively rapidly without the need for an incision and very soon a healthy granulating surface was left. Sloughs were cut off as need arose.

The dressing was renewed daily, the tension always being kept up.

Iliac Fistula.

A female patient, aged seventeen years and eleven months, had been admitted to hospital on August 5, 1925, complaining of a swelling in the left groin which had been present for three years. Seven months previously the swelling had dispersed and had discharged a large amount of pus. A sinus had formed and this had continued to discharge ever since. No pain had been present. The patient had attributed her illness to a fall which she had experienced some time previously. A family history of tuberculosis was present.

On examination after admission a sinus had been found in the left groin just above Poupart's ligament. Midway between the anterior superior iliac spine and adductor tubercle the sinus had been surrounded by exuberant granulations, bluish in colour. It had been possible to pass a probe backwards and slightly upwards for a distance of 3·75 centimetres (one and a half inch). The sinus had the appearance of a tuberculous lesion. No pain or limitation of movement at the hip joint had been present.

Examination of the chest had failed to reveal any abnormality. The action of the bowels had been regular and the patient had experienced neither pain nor discomfort on defæcation. No tuberculous lesions had been found on examination of the hip joint X rays, but a barium enema had disclosed the presence of a hairpin lying in the pelvic colon. The abdomen had been opened by Dr. T. M. Furber, who had found a hairpin with one segment lying free in the bowel and the other piercing the bowel and entering the abdominal parietes. The bowel had been found attached to the peritoneum. The bowel had been freed and opened and the hairpin removed. The bowel had been closed and the abdominal end of the sinus had been oversewn. The sinus had been curetted. The patient had no recollection of having swallowed a hairpin.

Primary Syphilis.

Two male patients were shown. One suffered from a chancre of the prepuce and the other from a urethral chancre. In the latter instance *Spirochæta pallida* had been recovered from serum taken from the meatus.

Secondary Syphilis.

A male patient, aged twenty-six years, presented typical secondary syphilitic lesions on the tonsils, hard palate, tongue and lips. Leucoplakia was present on the tongue and gums. The cervical glands were large and perineal condylomata were present.

Tertiary Syphilis.

A male patient, aged twenty-eight years, was shown. He suffered from tertiary syphilitic ulceration of the right temporal region and of the anterior nares.

Pneumococcal Arthritis and Dislocation of the Hip.

A boy, aged one year and ten months, had been admitted to hospital on September 27, 1925, suffering from a swelling of the left thigh which was regarded as being due to osteomyelitis. Four weeks prior to admission he had suffered from lobar pneumonia at the base of the right lung and the swelling of the leg had been noticed subsequently. On admission the child's temperature had been 39·1° C. (102·4° F.), his pulse rate 160 and his respirations forty in the minute. He had looked very ill, and been very restless and had appeared to be in a good deal of pain. It had been impossible to make a satisfactory examination of the leg. A swelling had been present over the left gluteal region and this had extended down the whole of the length of the thigh. The thigh had been held fixed in a position of flexion and abduction.

Examination of the chest had revealed the presence of a resolving pneumonia at the right base. On the day after admission a radiological examination had been made and dislocation of the head of the left femur had been discovered. Dr. J. Colvin Storey had seen the patient and made a diagnosis of dislocation of the left hip due to extensive pneumococcal arthritis. It was pointed out as an interesting feature that the swelling and fluctuation had been more prominent at the posterior than at the anterior aspect.

On October 1, 1925, a general anæsthetic had been given and the hip joint explored. The joint had been opened by Kocher's curved incision and a large quantity of greenish pus evacuated. The child had been placed on a Jones double hip splint. Since the operation the temperature had become normal, the swelling had subsided to a large extent and at the time of demonstration the child was free from pain. Pneumococci had been isolated from the pus.

Measles.

Two patients suffering from measles were shown and the typical character of the rash was demonstrated.

Scarlet Fever.

A patient, aged eight years, was suffering from scarlet fever. The scarletiniform rash was present on the trunk and limbs, but not on the face. The tonsils were enlarged and inflamed and the tongue was coated white, yet it had not assumed the "strawberry" appearance.

Patent Foramen Ovale.

A girl, aged five years and ten months, had been admitted to hospital suffering from diphtheria. She had suffered from a heart affection all her life and became very cyanosed on the least exertion. Clubbing of the hands and toes was present and a systolic murmur was audible over the precordium. It was loudest at the pulmonary area. A diagnosis of pulmonary stenosis and patent *foramen ovale* had been made.

Purpura Hæmorrhagica.

A girl, aged twenty-two years, a stenographer, had been admitted to hospital on October 3, 1925, complaining of a rash on her body of five weeks' duration. Her father had died of pneumonia, two brothers were healthy and one sister suffered from neuritis. The patient had suffered from no previous illness, though she was generally pale. Her menstrual periods had been irregular. They had occurred at intervals of five to six weeks. The last menstrual period had occurred six weeks before admission. On admission she had been bleeding from the vagina for twelve days. Seven weeks prior to admission the patient had suffered from laryngitis which lasted for a week. Subsequently red spots had appeared on the neck and then on all parts of the body. These had not been irritable and the patient felt very well. Two weeks prior to admission bleeding had occurred from the gums and from the nose. Vaginal bleeding had then occurred. The bowels had been acting regularly. It was pointed out that the girl was very anæmic, her conjunctivæ and lips were pale, the throat was clear, but the tongue slightly furred. The gums were bleeding and a postnasal hæmorrhage was also present. Purpuric spots varying in size were present all over her body and on the mucous membrane of the mouth. No glands were palpable and no abnormality could be detected on examination of the chest. The heart sounds were rapid and regular and were of moderately good tone. The second sound at the apex was accentuated. The abdomen was soft and the liver and spleen were not palpable. Treatment was being carried out by means of calcium lactate and parathyreoid gland extract, oil of turpentine and horse serum.

Banti's Disease.

A patient whose spleen had been removed on account of Banti's disease was demonstrated. The account of this case will be published in a subsequent issue.

MEDICO-POLITICAL.

A meeting of the Victorian Branch of the British Medical Association and of the Medical Society of Victoria was held at the Medical Society Hall, East Melbourne, on February 3, 1926, Dr. H. Douglas Stephens, the President, in the chair.

The balance sheets of the Victorian Branch of the British Medical Association, of the Medical Society of Victoria and of the Building Fund of the Medical Society of Victoria were presented by the Honorary Treasurer, Dr. C. H. Mollison. In moving their adoption Dr. Mollison discussed briefly the more important items and intimated that the debt on the new building was then £6,925.

Dr. Henry Laurie seconded the motion which was carried unanimously.

VICTORIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

Statement of Receipts and Payments for Period from January 16, 1925, to January 13, 1926.

Receipts.	£ s. d.	£ s. d.
To Balance, January 16, 1925—		
Bank of Victoria	183 11 0	
Cash in hand	12 0 0	
		195 11 0
„ Subscriptions—		
Town Members	£2,682 6 0	
Country Members	1,439 8 0	
Junior Members	557 16 3	
Capitation, London	5 8 0	
		4,684 18 3
„ Bank Discount		19 10 0
„ Clerical Work—		
For Members	£2 9 0	
For Obstetric Research Committee	50 0 0	
For Post-Graduate Committee	12 10 0	
		64 19 0
„ Sale of Journals		1 12 3
		£4,966 10 6

Payments.	£ s. d.	£ s. d.
By Medical Society of Victoria		2,066 4 9
„ British Medical Association		1,593 15 9
„ Transfer to Building Fund		250 0 0
„ Federal Committee		115 10 0
„ Salaries—		
Assistant Secretary	£208 7 6	
Assistant Librarian	58 18 9	
		267 6 3
„ Rebates to Divisions		70 3 0
„ Postages, Duty Stamps *et cetera*		67 2 3
„ Printing		120 13 6
„ Stationery		40 16 9
„ Commission on New Members		12 5 0
„ Advertising		11 0 6
„ Audit Fee, 1924		3 3 0
„ Telephone		10 4 7
„ Clerical Assistance		8 5 6
„ Electric Light		10 7 10
„ Repairs to Typewriter		4 18 0
„ Travelling Expenses		16 2
„ Obstetric Inquiry Committee Expenses		6 6 0
„ Donation, Melbourne Hospital		5 5 0
„ Attendants, Melbourne Hospital		4 12 0
„ Attendants, Women's Hospital Meeting		2 16 0
„ Lanternist		3 13 6
„ Expenses, Divisional Meeting (Warrnambool)		7 19 3
„ Balance—		
„ Sundries		11 7 1
Bank of Victoria	£259 18 4	
Cash in Hand	12 0 0	
		271 18 4
		£4,966 10 6

MEDICAL SOCIETY OF VICTORIA.

STATEMENT OF RECEIPTS AND PAYMENTS FOR PERIOD FROM JANUARY 16, 1925, TO JANUARY 13, 1926.

RECEIPTS.	£ s. d.	PAYMENTS.	£ s. d.
To Balance, January 16, 1925—		January 13, 1926.	
Bank of Victoria	304 13 10	By THE MEDICAL JOURNAL OF AUSTRALIA	1,225 0 0
„ Subscription, January 13, 1926	2,066 4 9	„ Transferred to Building Fund	300 0 0
		„ Salaries—	
		Secretary £412 0 0	
		Assistant Secretary (Bonus) 5 0 0	
		Library Clerk 61 0 0	
		Caretaker 76 0 0	
			554 0 0
		„ Library, Journals and Binding	48 1 8
		„ Typewriter	7 0 0
		„ Postages	67 2 3
		„ Rates, Taxes, Insurance	35 8 11
		„ Light and Power	10 7 11
		„ Audit Fee, 1924	4 4 0
		„ Bank Charges	10 0
		„ Telephone	10 4 7
		„ Sundries—	
		Photograph of Hall £3 0 0	
		Fee *re* Appointment of Trustees 2 2 0	
			5 2 0
		„ Balance—	
		Bank of Victoria	103 17 3
	£2,370 18 7		£2,370 18 7

MEDICAL SOCIETY OF VICTORIA—BUILDING FUND.

STATEMENT OF RECEIPTS AND PAYMENTS FROM JUNE 3, 1924, TO JANUARY 13, 1926.

RECEIPTS.	£ s. d.	£ s. d.	PAYMENTS.	£ s. d.
January 13, 1926.			January 13, 1926.	
To 281 Debentures of £25 each	7,025 0 0		By Architects' Fees, Stephenson & Meldrum	538 12 3
Less Four Debentures Redeemed	100 0 0		„ Contractors, T. Donald & Co.	8,664 14 0
		6,925 0 0	„ Advertisements	15 0
„ Transfer from Victorian Branch of the British Medical Association	£250 0 0		„ Bank Charges	1 5 0
„ Transfer from Medical Society of Victoria	300 0 0		„ Postages and Duty	30 17 4
„ Transfer from Medical Agency	2,446 3 4		„ Printing	17 8 0
		2,996 3 4	„ Furnishings £884 2 6	
„ Proceeds of Fixed Deposit Receipts—			„ Fittings (Library Shelves and Repairs to Furniture) 386 14 8	
Victorian Branch of the British Medical Association	£800 0 0		„ Lantern and Stand 39 0 0	
Medical Agency	400 0 0			1,309 17 2
Interest	17 10 0		„ Removal Expenses (Labour and Cartage, Storage of Books)	53 7 2
		1,217 10 0	„ Rent of Temporary Premises	143 0 0
„ Sale of Furniture		20 12 0	„ Insurance	1 17 0
			„ Expenses *re* Opening of New Building	23 14 9
			„ Duty on Debentures	14 1 0
			„ Legal Fees *re* Debentures	7 7 0
			„ Interest on Debentures	345 6 6
			„ Balance—	
			In E.S. & A. Bank	7 3 2
		£11,159 5 4		£11,159 5 4

Audited and Found Correct—

J. V. M. WOOD & CO.,

Incorporated Accountants and Auditors.

Melbourne, January 27, 1926.

C. STANTON CROUCH,
Secretary.

C. H. MOLLISON,
Honorary Treasurer.

University Intelligence.

THE UNIVERSITY OF SYDNEY.

A MEETING OF THE SENATE OF THE UNIVERSITY OF SYDNEY was held on March 1, 1926.

The following degree was conferred *in absentia*:
Master of Surgery (Ch.M.): Mansfield, Thomas Montague.

The question of the appointment of delegates to represent Sydney University at the Jubilee Celebrations of the University of Adelaide in August next was allowed to stand over till the return of the Chancellor.

Professor A. E. Mills was appointed to represent the University at the Congress of the Royal Institute of Public Health, London, to be held in Bristol in May next.

Advice was received from Professor Stump (recently appointed Associate Professor of Anatomy) that he would arrive in Sydney on April 12.

Dr. R. Gordon Craig, of Sydney, offered to the University the sum of £300 to cover the cost of establishing this year a post-graduate fellowship in urology and also (if the scheme outlined proved successful) further sums during 1927 and 1928 to cover the cost of a second and third fellowship respectively and at the end of five years to donate a sum sufficient to produce an income of £300 *per annum* in perpetuity for a permanent fellowship. He also offered to bear for that period the expenses of running the laboratory which he has built and equipped, and eventually, if expectations of its usefulness are realized, to provide an endowment which will bring his gift to the total amount of £20,000. It was decided to tender grateful thanks to the donor for his generous benefaction and to accept the scheme as outlined and to take immediate steps to complete conditions with the cooperation of Dr. Craig for the award of the fellowship during this year.

It was decided to accede to the request of the Dental Board to supervise the conduct of a Dental Board examination recently annulled by the Minister of Public Health and also to nominate the required examiners on the understanding that the University could in no way accept responsibility for the standard of such examination.

The undermentioned appointments were also made: Mr. A. G. Hills as Demonstrator in Chemistry. Mr. A. J. Higgs as Demonstrator in Physics.

Correspondence.

BOILS.

SIR: In reply to Dr. G. G. Bradley's inquiry in THE MEDICAL JOURNAL OF AUSTRALIA of the twentieth instant as to the treatment of boils it is the general opinion that fomentation very often is responsible for the production of further boils in the macerated area of skin covered by the dressing and it is my experience that *Emplastrum saponis* (B.P.) or modification of the same is a very satisfactory treatment that has the advantage of not requiring incision as well.

Dr. Bradley asks three questions:

(1) Is it possible to stop a boil developing when it is first discovered as a small angry pimple?

(2) Is there any absolute way of preventing the appearance of further boils in a patient who has had, say, two?

(3) How would your readers treat a moderately large sized boil of the cheek (where cosmetic considerations enter the question) which is in a stage some time before any fluctuation has appeared?

As to (1) this is sometimes possible by snipping away the epithelium raised by the pus and applying dilute white precipitate ointment on lint after carefully washing away the pus. If more vigorous methods are used, such as painting with full strength carbolic acid or tincture of iodine repeatedly, recovery may occur, but this method requires more attention.

In answer to Question (2) there is no absolute method I should say, but a stock staphylococcal vaccine, given in small doses increased every third or fourth day without producing any general reaction, probably will be successful.

Question (3) is best answered by describing the method adopted for most boils and this entails a fragment of family history. When boils arrived in my family, a preparation was always used, rather like Bates's salve, but stickier and more easily applied which certainly seemed effective and was never followed by a "crop."

When I became a student, I naturally was very condemnatory of a method of treatment that was not advocated in any of my textbooks or by any of my teachers, but became reasurred slightly during my therapeutic course to find samples of *Emplastrum saponis* tucked away in the corner of the shelf, material that smelt and looked very much like the proprietary preparation of my youth. My theory was that *Emplastrum saponis* had been shelved because of the Listerian method of antisepsis.

When a resident of Sydney Hospital, I found that the Medical Superintendent (Dr. W. Perry) was using *Emplastrum saponis* with 5% salicylic acid for boils and I decided to return to the method belauded in the family (there not only boils, carbuncles, ulcers, splinters *et cetera* in the human, but even broken legs had been treated by this material on occasions in pet cats and dogs). On inquiry I found that the preparation contained identical ingredients and proportions to that of *Emplastrum saponis*.

My experience since has convinced me that the addition of an extra drachm of resin to the ounce of *Emplastrum saponis* increases its efficiency and that the addition of salicylic acid is optional. The plaster is spread like butter on chamois, kid, holland or other stiff material, cut to overlap the centre of the boil by six millimetres (a quarter of an inch) or so, with a knife that has been previously warmed. In winter the plaster may be warmed over a flame in a metal vessel of some sort and should an aseptic method be advocated, could easily be boiled before use. No other dressing is required than the small half to three-quarter inch patch. *Emplastrum saponis* acts in two ways, positively and negatively. Positively, it softens the tissues and, being sticky, the discharge adheres to it and comes away when the dressing is changed. Negatively a minimum of skin surface is covered by dressing and therefore the maximum is kept dry and discharge is kept corked up in the boil except at the time when dressings are done and thus organisms are prevented from spreading over the skin to infect fresh hair follicles.

Sometimes the removal of the hair in a commencing boil will abort it. Dressings can be done hourly or daily according to the amount of discharge present. Of course it is the proper thing to be thoroughly acquainted with the treatment of ainhum or other obscure condition and to allow common colds and other such ailments to take their course, but who knows whether coryza may not be analagous to the local manifestations of gonorrhœa and boils sound quite interesting if they are labelled furuncles.

Yours etc.,

R. C. WINN.

225, Macquarie Street, Sydney,
February 23, 1926.

GONORRHŒA IN NATIVES OF NEW GUINEA.

SIR: On page 174 of the journal of February 6, 1926, I notice a letter from Dr. W. A. T. Lind with reference to the absence of stricture following gonorrhœa in the Territory of New Guinea. It may interest Dr. Lind and others to hear that in the adjoining Territory of Papua there is the same absence of stricture among the natives, although gonorrhœa is, I suppose, nearly as common as in an Australian city.

I have been twenty-two years in the Territory and cannot remember a stricture in a native; but have seen many cases of gonorrhœa when I was in charge of a native hospital and travelling among the villages. I do not know

of a case of salpingitis either in women; but the number of native women one has seen is so comparatively small, that I would not lay any emphasis on this. The fact as regards the absence (relative at least) of stricture is undoubted; but what is the explanation? I cannot believe that all (or any appreciable proportion of) strictures are due to over energetic treatment. I think the explanation is as follows:

The natives appear to possess some sort of partial immunity to septic organisms. Thus, they recover from severe septic injuries in a way I cannot believe Europeans would. The cause of stricture, I take it, is not the gonococcus but the septic organisms which follow gonorrhœa. The natives, being relatively immune to these, do not, I suppose, get stricture.

Here in Papua epididymitis is, I suppose, about as common as in a European country. The amount of ophthalmia depends mainly on whether the natives are cautioned about conveying infection to the eyes. We certainly get some arthritis cases; but the cases are, I think, hardly as severe as the general white case. On the other hand, mild cases of fibrositis would seem to be more common. I have in the past often had cases of obscure pain around a tendon or ligament referred to me. In many of these cases either an examination or the history has elicited a urethral infection.

I will also mention that about a third of our cases of purulent urethritis in natives do not show gonococci, even when careful search is made. They, moreover, give every sign of clearing up promptly when subjected to quite simple treatment. I believe they are of non-gonococcal origin. I have often wondered what percentage of urethral discharges are of non-gonococcal origin amongst Europeans living in temperate climates.

Yours, etc.,

W. M. Strong, M.D., D.T.M. & H.,
Chief Medical Officer,
Territory of Papua.

Port Moresby,
February 22, 1926.

Proceedings of the Australian Medical Boards.

NEW SOUTH WALES.

The undermentioned have been registered under the provisions of the *Medical Act*, 1912 and 1915, as duly qualified medical practitioners:

Arnott, Desmond William Holme, M.B., 1925 (Univ. Sydney), Jersey Road, Strathfield.
Arnott, Halse Rogers, M.B., Ch.M., 1925 (Univ. Sydney), Munderah Street, Wahroonga.
Ashton, Henry Dawson, M.B., Ch.M., 1925 (Univ. Sydney), Eastwood Avenue, Eastwood.
Burgess, Thomas Whittley, M.B., Ch.M., 1925 (Univ. Sydney), Coolong Road, Vaucluse.
Chambers, George Alexander, M.B., Ch.M., 1925 (Univ. Sydney), Crown Street, Epping.
Clark, Alice Amy, M.B., Ch.M., 1925 (Univ. Sydney), Women's College, Newtown.
Clifton, Vivian Roy, M.B., Ch.M., 1925 (Univ. Sydney), Wesley College, Newtown.
Cook, Bertrand Anthony, M.B., Ch.M., 1925 (Univ. Sydney), care of E. G. Coghlan, Crown Street, Wollongong.
Cooper, Alfred Leonard, M.B., Ch.M., 1925 (Univ. Sydney), 22, Wolseley Road, Drummoyne.
Donnellan, John Joseph, M.B., Ch.M., 1925 (Univ. Sydney), 492, Botany Road, Botany.
Edwards, John Henry Drummond, M.B., Ch.M., 1925 (Univ. Sydney), Ian Street, Rose Bay.
England, Theodora Margaret, M.B., 1925 (Univ. Sydney), Victoria Street, Ashfield.
Figtree, Edward Richardson, M.B., Ch.M., 1925 (Univ. Sydney), Redmyre Road, Strathfield.
Fox, Otho Parkes, L.R.C.P. (Edin.), 1921; L.R.C.S. (Edin.), 1921; L.F.P.S. (Glasg.), 1921.
George, Thomas Woodcock, M.B., B.S. (Lond., 1910), Ardlethan.
Glasson, Robert Malcolm, M.B., Ch.M., 1925 (Univ. Sydney), Slapdash, Gulgong, N.S.W.
Graham, Ian Allister David, M.B., 1925 (Univ. Sydney), Moonbie Street, Summer Hill.
Grainger, Francis Transvaal, M.B., Ch.M., 1925 (Univ. Sydney), 98, Gloucester Road, Hurstville.
Halliday, George Clifton, M.B., 1925 (Univ. Sydney), Northcote Avenue, Killara.
Hanson, Herbert Victor, M.B., Ch.M., 1925 (Univ. Sydney), 353, Bridge Street, Drummoyne.
Hart, Albert Hughie, M.B., Ch.M., 1925 (Univ. Sydney), Wentworth Street, Parramatta.
Hay, Vivian Charles Langtree, M.B., Ch.M., 1925 (Univ. Sydney), Kirribilli Avenue, Kirribilli.
Heath, Alfred Alexander, M.B., 1925 (Univ. Sydney), 28, Wunda Road, Mosman.
Janes, Arthur Fitzgerald, M.B., Ch.M., 1925 (Univ. Sydney), Post Office Hotel, Moree.
Johnson, Horace William, M.B., Ch.M., 1925 (Univ. Sydney), Wesley College, Newtown.
Kennett, George Hedley, M.B., Ch.M., 1925 (Univ. Sydney), Glenfield, Southern Line.
Lansdown, Milford Vaughan, M.B., Ch.M., 1925 (Univ. Sydney), 21, Turner Avenue, Haberfield.
Lawson, Colin Alexander, M.B., Ch.M., 1925 (Univ. Sydney), Rutledge Street, Eastwood.
Leiper, Alexander, M.B., Ch.B., 1925 (Univ. Glasg.), Lane Cove Road, Greenwich.
Maltby, Reginald, M.B., Ch.M., 1925 (Uni. Sydney), 33, Redmyre Road, Strathfield.
Martin, Roy Neville, L.R.C.P. (Edin.), 1924; L.R.C.S. (Edin.), 1924; L.F.P.S. (Glasg.), 1924; care of Archdeacon Martin, Marrickville.
McCaffrey, Christian James, M.B., 1925 (Univ. Sydney), 46, Cambridge Street, Paddington.
McMahon, Henry Ernest, M.B., Bac. Surg., 1925 (Univ. Melbourne), Kurri Kurri.
Norton, Cecil Hugh, M.B., Ch.M., 1925 (Univ. Sydney), Moore Park, Armidale.
Oag, Hugh Stewart, M.B., Ch.M., 1925 (Univ. Sydney), Campbell Street, Hunter's Hill.
Oxenham, Alan Francis, M.B., Ch.M., 1925 (Univ. Sydney), 10, Bennett Street, Neutral Bay.
Pearlman, Samuel, M.B., 1925 (Univ. Sydney), 436, New Canterbury Road, Dulwich Hill.
Pye, Aubrey David Dick, M.B., Ch.M., 1925 (Univ. Sydney), Kurrajong, N.S.W.
Rich, Harold Strathfield, L.R.C.P. (Lond.), 1925; M.R.C.S. (Eng.), 1925; Elizabeth Bay Road.
Sinclair, Bruce Arran, M.B., Ch.M., 1925 (Univ. Sydney), 6, Merchant Street, Stanmore.
Thompson, Roy William, M.B., Ch.M., 1925 (Univ. Sydney), Waimea Street, Katoomba.
Thorp, Joseph Herbert, M.B., Ch.M., 1925 (Univ. Sydney), King's Avenue, Manly.
Todd, Geoffrey Sydney, M.B., Ch.M., 1925 (Univ. Sydney), Lower Wycombe Road, Neutral Bay.
Trotter, Robert Samuel, M.B., C.M., 1898, M.D., 1903 (Univ. Aberdeen); D.Hy. (Durham), 1911; 15, The Blackstone, Elizabeth Bay Road.
Welsh, Arthur Muir, M.B., 1925 (Univ. Sydney), Warivilla Avenue, Wahroonga.
Wiles, Charles Angus, M.B., Ch.M., 1925 (Univ. Sydney), 6, Muruben Road, Mosman.

Change of Name.

Simpson, Brenda Elizabeth Charles, to Laws, Brenda Elizabeth Charles.

Registration of Additional Qualifications.

Arnott, Desmond William Holme, Ch.M., 1925 (Univ. Sydney).
Byrne, George Cumming, Ch.M., 1925 (Univ. Sydney).
Coghlan, Cecil Charles, M.R.C.P. (Irel.), 1924; F.R.C.S. (Eng.), 1925.
Doyle, Andrew Aloysius, F.R.S.C. (Irel.), 1899.
Halliday, George Clifton, Ch.M., 1925 (Univ. Sydney).
Harrison, Bede James Michael, Ch.M., 1925 (Univ. Sydney).

Lee Brown, Robert Kingsbury, M.D., 1925 (Univ. Sydney).
Lightoller, George Henry Standish, M.D., 1925 (Univ. Sydney).
Little, William Norman, Ch.M., 1925 (Univ. Sydney).
Maffey, Reginald William Harrison, Ch.M., 1925 (Univ. Sydney).
Raymond, Arthur Wilmot, Ch.M., 1925 (Univ. Sydney).
Royle, Norman Dawson, M.D., 1925 (Univ. Sydney).
Susman, Eric Leo, M.R.C.P. (Lond.), 1924.
Wilson, Harold Frederick, Ch.M., 1925 (Univ. Sydney).
Wilson, William Roy, Ch.M., 1925 (Univ. Sydney).

LISTS OF MEMBERS.

Bound as Separate

In the lists of members of the several Branches of the British Medical Association, published as a supplement to The Medical Journal of Australia of February 13, 1926, the crossed swords indicative of active service during the Great War have been omitted in connexion with the names of a few medical practitioners. They should have been attached to the following:

Dr. R. B. Austin, Armidale, New South Wales Branch.
Dr. Alfred N. Jacobs, Fremantle, Western Australian Branch.
Dr. H. A. McCredie, Moruya, New South Wales Branch.
Dr. C. H. G. Ramsbottom, Bedford Park, Sturt, South Australian Branch.
Dr. E. Rogerson, Kaniva, Victorian Branch.
Dr. K .P. Rutherford, Boorowa, New South Wales Branch.
Dr. K. E. Shellshear, Bolton Street, Newcastle, New South Wales Branch.
Dr. A. C. R. Todd, Elliston, South Australian Branch.
Dr. L. W. Tunley, Gulgong, New South Wales Branch.

The name of Dr. C. R. Dunkley, of Fremantle (Western Australian Branch) has been misspelt. Members are advised to communicate with the Honorary Secretaries of respective Branches in regard to errors in the lists in order that the correct entries may be made in next year's lists. The lists are compiled by the Councils of the Branches and not by the journal.

Books Received.

MANUAL OF EMERGENCIES: MEDICAL, SURGICAL AND OBSTETRIC, THEIR PATHOLOGY, DIAGNOSIS AND TREATMENT, by J. Snowman, M.D., M.R.C.P. (London); Second Edition; 1926. London: John Bale, Sons and Danielsson, Limited. Crown 8vo., pp. 361. Price: 10s. net.

PUERPERAL SEPTICÆMIA: ITS CAUSATION, SYMPTOMS, PREVENTION AND TREATMENT, by George Geddes, M.D., C.M. (Aber.); 1926. Bristol: John Wright and Sons, Limited. Demy 8vo., pp. 206. Price: 12s. 6d. net.

REPORT ON THE HEALTH OF THE ARMY FOR THE YEAR 1923; Volume LIX.; 1925. London: His Majesty's Stationery Office. Royal 8vo., pp. 156. Price: 3s. 6d. net.

CATECHISM SERIES: DISEASES OF THE SKIN, by J. Ferguson Smith, M.A., M.B.; 1926. Edinburgh: E. and S. Livingstone. Crown 8vo., pp. 88. Price: 1s. 6d. net.

CATECHISM SERIES: DISEASES OF THE EAR, NOSE AND THROAT, by Gavin Young, M.C., M.B., Ch.B., F.R.F.P.S.; 1926. Edinburgh: E. and S. Livingstone. Crown 8vo., pp. 67. Price: 1s. 6d. net.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser," page xxiv.

Benevolent Society of New South Wales—Renwick Hospital for Infants: Honorary Physician.

Blair Athol District Hospital, Queensland: Medical Officer.

Royal Alexandra Hospital for Children, Camperdown, Sydney: Honorary Physician.

The Public Service Board (New South Wales): Medical Officer of Health.

Medical Appointments: Important Notice.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCH.	APPOINTMENTS.
New South Wales: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester United Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society.
Victorian: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
Queensland: Honorary Secretary B.M.A. Building, Adelaide Street, Brisbane.	Brisbane United Friendly Society Institute. Stannary Hills Hospital.
South Australian: Honorary Secretary, 12, North Terrace, Adelaide.	Contract Practice Appointments at Ceduna, Wudinna (Central Eyre's Peninsula), Murat Bay and other West Coast of South Australia Districts.
Western Australian: Honorary Secretary, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
New Zealand (Wellington Division): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

Mar. 23.—New South Wales Branch, B.M.A.: Council (Quarterly).
Mar. 24.—Victorian Branch, B.M.A.: Council.
Mar. 25.—New South Wales Branch, B.M.A.: Branch (Annual).
Mar. 25.—South Australian Branch, B.M.A.: Branch.
Mar. 26.—Queensland Branch, B.M.A.: Council.
Mar. 30.—New South Wales Branch, B.M.A.: Council.
Apr. 1.—South Australian Branch, B.M.A.: Council.
Apr. 6.—Tasmanian Branch, B.M.A.: Council.
Apr. 7.—Victorian Branch, B.M.A.: Branch.
Apr. 7.—Western Australian Branch, B.M.A.: Council
Apr. 8.—Victorian Branch, B.M.A.: Council.
Apr. 8.—New South Wales Branch, B.M.A. Clinical Meeting
Apr. 9.—Queensland Branch, B.M.A.: Council.
Apr. 13.—Tasmanian Branch, B.M.A.: Branch.
Apr. 13.—New South Wales Branch, B.M.A.: Ethics Committee.
Apr. 19.—New South Wales Branch, B.M.A.: Organization and Science Committee.
Apr. 20.—Tasmanian Branch, B.M.A.: Council.
Apr. 20.—New South Wales Branch, B.M.A.: Executive and Finance Committee.

Editorial Notices.

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